1885.

BOROUGH OF SUNDERLAND.

ANNUAL REPORT

ON THE

HEALTH AND SANITARY CONDITION OF SUNDERLAND.

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BOROUGH OF SUNDERLAND.

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To the Mayor, Aldermen, and Councillors acting as
the Urban Sanitary Authority.

Gentlemen,

I herewith submit my Annual Report on the Health of the Borough for your consideration.

In it will be found considerable information respecting disease during the last year and the 10 years preceding.

I have to ask your special attention to that portion of it which deals with the effect of age distribution on mortality. Several important tables, shewing the deaths at the different groups of ages, have been prepared, so that a comparison may be made between the death-rates in Sunderland and those existing in England and in the "Healthy Districts."

I have also to ask your attention to the important facts elicited respecting vaccination, which I have compiled from information specially sought for, during the recent epidemic of Smallpox.

I am, Gentlemen,
Your obedient Servant,
ALFRED E. HARRIS,
Medical Officer of Health.

Health Office,
Sunderland,
August 1st, 1886.

REPORT.

REPORT, 1885

THE estimated number of people living in the borough for the year 1885 was 125,273, and they were distributed in the five sub-registration districts in the manner exhibited in the following table, which also gives the area of, and density of the population of each locality :—

Population.
Distribution of

TABLE A.

	Population.	Area in Acres.	Density of Population per Acre.
Sunderland East	9,859	178	55·3
,, West	6,348	33	192·4
Bishopwearmouth North	38,783	861	45·0
,, South	42,185	1,258	33·5
Monkwearmouth	28,098	633	44·3
Borough	125,273	2,963	42·2

The aggregate population is also estimated to have been distributed for age and sex as follows :—

Sexes.

TABLE B.

Ages.	Males.	Females.	Persons.
Under 5	9,252	9,280	18,532
5-15	14,809	14,660	29,469
15-25	11,346	12,470	23,816
25-35	9,492	9,481	18,973
35-45	7,192	7,120	14,312
45-55	4,594	4,975	9,569
55-65	2,964	3,390	6,354
65-75	1,389	1,847	3,236
75 and upwards	374	638	1,012
Totals	61,412	63,861	125,273

Population.
How estimated.

The Medical Officer of Health has been frequently asked how the populations of the borough for the inter-censal years are calculated, and he therefore now for the information of the Authority, as well as the public, who in Sunderland more generally than in other towns take an interest in vital statistics. The method pursued, it may be remarked, is identically similar to that followed by the Registrar-General. The rough and ready method adopted in small districts is to take the population at two census periods, subtract one population from the other, divide the difference by 10, and for each year after the last census add the result. This will give approximately the population for the required year. In large boroughs the error is, however, likely to be considerable, and the method adopted is therefore more exact. The human race like the seeds of the vegetable world increase not in an arithmetical progression, but in a regular geometrical progression. Recollecting this, the calculation becomes a simple one, and is made in the manner shewn below. For the sake of simplicity in calculating logarithms are used.

Population.

Increase of, how calculated.

In 1881, at the census, the enumerated population of Sunderland was 116,548, and in 1871, 98,335. The logarithms for these numbers are respectively 5·0665048, and 4·9927081. By subtracting the logarithm of the population for 1871 from that of 1881 the logarithm representing the increase of population for ten years is obtained, viz., ·0737967. By dividing this result by 10, the logarithm representing the increase for one year is ascertained. Now as the census is taken about the end of the first quarter of the year, it is clear that a fourth of the logarithm of increase for one year must be added to obtain the logarithm representing the estimated population for the middle of that year. This will give 5·0683497. If to this logarithm be now added 4-times the logarithm for one year the result will give the logarithm representing the estimated population for the middle of 1885. This logarithm is 5·0978681, and represents in whole numbers 125,273, which is the population estimated to the middle of 1885. The population is always estimated for the middle of the year, in order that all calculations may represent an average. If this were not done in an ever-increasing large town, it would be necessary from week to week and month to month to alter the basis of calculation, *i.e.*, the population. This would entail considerable trouble, and would really be of little practical utility.

MARRIAGES.

The marriages contracted in the borough were as follows :—

TABLE C.

	1885.	1884.	1883.
In Churches ……… ………	534	568	Not stated
At the Registrar's Office …	634	662	Not stated
Totals…………………	1,168	1,230	1,522

From this table it is at once perceived that the marriage rate has steadily declined during the last two years. This is no doubt due to the great depression in the trade of Sunderland. Table I in the appendix gives the marriages for the previous ten years.

BIRTHS.

Births.

The number of children born in the year was 4,725, which is a decrease of 613 on the previous year's returns. Of these 2,456 were males and 2,269 were females. The birth-rate was 37·71 per 1,000 of the population, and is lower than any birth-rate recorded in the borough during the preceding 10 years (*vide* Table II appendix) in which period the average rate had been 40·99, which is 3·2 above the rate now recorded. It is also as much as 5·64 below the rate (43·35) of 1884.

Decline in the Birth-rate.

The falling off in the number of births can easily be seen in the following table :—

Decrease in the districts.

TABLE D.

	1885.	1884.	Decrease.
Sunderland East..	343	372	29
„ West	247	280	33
Bishopwearmouth North	1520	1722	202
„ South	1522	1623	101
Monkwearmouth	1093	1341	248
Totals	4725	5338	613

The decrease has, therefore, not been confined to any one district.

The births registered in each quarter together with the birth-rate were as follows :—

Births in the Quarter.

TABLE E.

1st Quarter	1240	= 39·58	per 1000
2nd Quarter	1254	= 40·04	„
3rd Quarter	1133	= 36·17	„
4th Quarter	1078	= 34·42	„
Whole year	4725	= 37·71	„

In this year, as in the two preceding years, the birth-rate in the 2nd Quarter was higher than in the other quarters. With this exception, there has been a regular decrease in the rate for each quarter since the middle of 1884. Thus the rates, beginning at the 3rd Quarter of that year, were respectively 40·4, 39·1, 39·5, 40·0, 36·1, and 34·4. This is not a little remarkable and is not easily accounted for. Of course it may be said that owing to the great depression of trade in the borough many persons have migrated elsewhere to seek work. This, however, is not borne out by the rate books, which shew there were 17,444 houses inhabited compared with 17,208 houses occupied in 1884, or an increase of 246 houses. Now at the census in 1881 there was an average of 7·3 persons living in each inhabited house; consequently the number of houses (246) multiplied by this number will represent an increase in the population of 1,795, which is only 313 less than that estimated by the Registrar-General by the method

Cause of the decline of the Birth-rate.

Births.

already described. Again if the Registrar-General's method be still further tested by multiplying the actual number of inhabited houses (viz., 17,444) by the number of persons (7·3) living in each house at the time of the census, it will give a population 127,341, which is 2,067 in excess of the population (125,273) estimated in the usual manner. Consequently other causes than any appreciable diminution of the population must be sought for to account for the decline in the birth-rate. These causes may be (1) a decrease in the number of marriages, and (2) that the persons marrying were of a more mature age. Certain it is that for the last two years it was almost impossible that the younger members of our population could afford, as they had in preceding years, to marry in so large numbers.

Probable cause of the decline.

The decrease in the birth-rate is not altogether a matter of regret, because for a long while it has been very high, and almost abnormal. Indeed it had been for a considerable period higher than that of any great town in England.

Again, as a high birth-rate is a sign of prosperity so to the opposite condition may, also, to some extent, be ascribed a decreased fecundity.

The average rate for the borough for the preceding ten years was 40·99 ; and the average rate for England (10 years) was 35·28, for London 35·23, and for the County of Durham 43·60.

MORTALITY.

Deaths

There were 2,977 deaths during the year. These represent a death-rate of 23·76 per 1,000. In the preceding year the mortality was 2,888, and the death-rate 23·44. The average rate in the 10 years 1875-84 was 23·47, representing an annual average of 2,941 deaths (*vide* Table I Appendix). In that table the number of deaths corrected for population for each year is given, so that the numbers may be compared with each other. Otherwise it would be manifestly unfair to make a comparison, say, of the 2,436 actual deaths in 1881 in a population of 116,753 with the 2,385 deaths in 1875, when the population was only 105,621, or eleven thousand less. But it may be said that the death-rates for these years are available for comparative purposes. This is quite true, but then their significance is not always justly appreciated, and indeed the term is not always understood. For instance, not very long ago in the height of the Measles Epidemic, when the death-rate one week had been equal to an annual rate of 42·0 per 1,000, a solicitor exclaimed on seeing it reported in the papers, "It is dreadful to think that out of every 1,000 of

Correction for Population.

us 42 are dying every week." He had mistaken an annual rate for a weekly one. If, however, death-rates are compared with death-rates, to be understood, they must have some defined meaning. There are really two mortality rates, viz., those which Dr. Farr calls the "crude" mortality rates, which are the proportion the deaths bear to populations, and the "true" mortality rates, which can only be determined by means of Life Tables. It is the former of these which are invariably used in Health Reports. Comparing one year with another in the same town is best done by numbers if they rest on a common basis, that basis being of course population. Thus the death-rates in 1875 and 1881 were respectively 22·57 and 20·85 per 1,000 inhabitants, while in 1885 the rate was 23·76. The latter rate represents the deaths of 2,977 persons in a population of 125,273 people; a rate of 22·57 represents 2,829 deaths in the same population; and similarly a rate of 20·85 denotes the deaths of 2,613. These deaths are said to have been corrected for population, and the figures can then be compared with each other. There is nothing so misleading to the public as death-rates. Every week the Registrar-General issues returns giving the mortality rates in each of the large towns of England, and a comparison is made between towns, many of which have hardly anything in common for exact purposes of comparison. The comparison by the crude mortality rate is to a certain extent unfair. Thus the proportion of children, of adults, of old people of the sexes may be very different, and the occupations of the population may be very dissimilar, in the different boroughs; and, consequently, until corrections have been made for these, a fair comparison is not possible; and as a result persons run away with an impression that one town is in a better or worse sanitary condition because its rate is a little less or a little more than another. Just as it is supposed that a high birth-rate brings in its train a high death-rate. This is a very great mistake. In a town where there is a high birth-rate there must of necessity be an exceptionally large number of young adults in the population; and consequently an unusually small proportion of elderly people. The age distribution is, therefore, favourable to the rate of mortality. When the birth-rate is small there must also be a small proportion of young adults in the population, and a consequent undue proportion of people advanced in years. As Mr. Humphreys, of the Registrar-General's Department, has well put it:—"In explication of the fact that high birth-rates are generally found co-existent with high death-rates, it is only necessary to point out that the aggregation of young adults which produces high birth-rates only takes place in urban districts, and that it is the urban aggregation and not the high birth-rate that results from it, which causes the high death-rate."

"Crude" and "True" Mortality Rates.

Death Rates Misleading.

Fallacy that high birth-rates mean high death rates.

REPORT, 1885.

Age distribution in Sunderland, also England and Wales.

For the better appreciation of Tables given later on a study of the distribution of the population in Sunderland, and in England and Wales will be of service. The Table gives the age distribution per 1,000 of the people.

TABLE F.

Ages.	Under 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 and upwds.
England and Wales.	136	227	186	147	113	86	59	33	13
Sunderland	148	235	190	152	114	76	51	26	8

Here it is clearly shewn that our population consists of a larger proportion of persons under thirty-five years than in England, while in the decade 35-45 it is almost in the same ratio, and in the remaining periods of life the proportionate population of old persons is less than in England and Wales. Here then are conditions which should put Sunderland in an advantageous position with its mortality returns. How far these are favourable or unfavourable will be better understood on the inspection of other tables. Below is given a table shewing the deaths and death-rates at ten groups of ages in the borough.

Deaths at ten groups of ages. in Sunderland.

TABLE G.

Ages.	Population.	Mortality.	Rate of Mortality.
0-5	18,532	1505	88·09
5-15	29,469	238	7·93
15-25	23,816	120	4·95
25-35	18,973	144	7·46
35-45	14,312	180	12·36
45-55	9,569	159	16·24
55-65	6,354	218	33 83
65-75	3,236	250	75·62
75-85	925	138	146·77
85 and upwards...	87	25	280·40
All Ages............	125,273	2,977	23·75

Now, in Table H is given the population as it would be distributed at ten age periods in Sunderland, if the age distribution had been the same as in England and Wales. This table also gives the mortality that would then have taken place supposing the rate of mortality to be the same as actually existed in the borough in 1885.

Correction for age distribution.

TABLE H.

Ages.	Population.	Mortality.	Rate of Mortality.
0-5	17,037	1,383	81·20
5-15	28,435	229	8·07
15-25	23,304	117	5·03
25-35	18,412	139	7·58
35-45	14,159	178	12·57
45-55	10,774	179	16·61
55-65	7,390	253	34·31
65-75	4,134	319	77·27
75 and upwards..	1,623	262	161·06
All Ages...........	125,273	3,059	24·41

The mortality rate of Sunderland corrected for age distribution is, therefore, 24·41 per 1000 of the inhabitants.

Correction for sex distribution.

In addition to this correction a further correction should be made for sex, and then it would be found that the really true and correct death-rate for Sunderland for the year 1885 would be 24·82.

Thus the difference between 23·75 and 24·82 is the difference between the crude or recorded death-rate, and the corrected or true death-rate. The difference 1·05 per 1,000 in the population may seem small in figures expressed per 1,000, but its true significance is that it represents 131 deaths.

When the death-rates of all towns have been corrected in the above manner it is then possible by setting up the mortality of England as a standard to compare town with town on a far more correct basis. It will then be found that the same number of persons last year that gave 1,000 deaths in England and Wales gave 1,306 in Sunderland, 1,453 in Newcastle-on-Tyne, 926 in Brighton, 990 in Derby, 1,066 in Portsmouth, 1,122 in Leeds, 1,375 in Liverpool, and 1,553 in Manchester.

To get still a clearer knowledge of the significance of death-rates, it is necessary to compare the returns with some standard, or substitute for a standard, return. Unfortunately there is no standard; but Dr. Farr compiled a table which for all practical purposes has become the standard life table of England. In this the ages of the people living in 53 English districts, in which the death-rate did not exceed 17·0 per 1000 inhabitants, were tabulated, and calculations were made as to the death-rates at several periods of age. This table, with a table representing the death-rates in all England and Wales at the same ages, is given and compared with the mortality in Sunderland on page 8 (Table I).

TABLE I.

Ages.	Estimated Population of Borough in 1885.	Deaths in 1885 in Borough.	Recorded death-rate in 1885.	Average annual death-rate in the 53 Healthy Districts.	No. of Deaths which would have occurred in Sunderland if the death-rates had been the same as in the Healthy Districts.	Annual average death-rates in England 1871-1881.	Deaths which would have occurred in Sunderland if the death-rates had been the same as in England and Wales.
1	2	3	4	5	6	7	8
0-5	18,532	1,505	81·20	40·34	747	63·12	1,169
5-15	29,469	238	8·07	5·60	165	5·06	149
15-25	23,816	120	5·03	7·28	173	6·18	147
25-35	18,973	144	7·58	8·56	162	8·93	169
35-45	14,312	180	12·57	9·63	137	12·62	180
45-55	9,569	159	16·61	12·32	117	17·72	170
55-65	6,354	218	34·31	22·28	141	31·49	200
65-75	3,236	250	77·27	52·39	169	64·85	209
75 & upwds	1,012	163	161·07	145·32	147	161·59	163
All Ages.	125,273	2,977	23·75	15·63*	1,958	20·40†	2,556

*This is the rate of Mortality that would have occurred in the Healthy Districts if the distribution of ages had been the same as in Sunderland in 1885. † Ditto for England and Wales. The rate was really 21·27.

Mortality in Sunderland, in Healthy Districts, and in England and Wales, compared

By comparing columns 4, 5, and 7, some interesting facts are obtained as regards the mortality among our population at the different age periods. Thus, among children under 5 years the mortality rate is far in excess of that either in the Healthy Districts or in all England. It is more than double that of the former, and slightly over 18 per thousand more than that of the latter. These are very serious disparities, which at once cause the question to arise "why this great difference? One great cause in 1885 was, undoubtedly, the largely increased mortality arising from Measles, which carried off 346 children living in this particular age period; in addition to which there were many deaths above the average from the respiratory diseases, that were so prevalent during the epidemic of Measles.

Mortality Ages: 5-15.

In the next age period, 5-15, Sunderland mortality is 8·07, compared with 5·60 in the healthy districts; and 5·06 in England and Wales.

15-25.

Between the 15-25 period a remarkable circumstance is noticed, namely: that the mortality of Sunderland is less than that of the healthy districts, and less, also, than the average of England and Wales for ten years. The figures are respectively 5·03, 7·28, and 6·18. The Sunderland mortality figures represent a saving of 53 lives compared with the healthy districts; and 27 lives compared with England Wales.

25-35.

In the 25-35 period there is similarly a greater healthiness in the borough; in it the rate of mortality is 7·58, compared with 8·56 (healthy districts), and 8·93 (England and Wales); there is a consequent saving of 18 lives, or 25 lives respectively when compared with columns 6 and 8 of the Table.

35-45.

As far as the healthy districts are concerned the superiority of Sunderland ceases at this period, for in the fifth group of ages (35-45) the death-rate is 2·94 above their rate; although it has still a slight advantage over England and Wales, viz.: 0·15.

45-55.

From this period of life upwards the disparity with the healthy districts becomes more marked, and at the same time there is an increasing divergence between the borough and English mortality rates. There is one period, however, in which the Sunderland rate is more favourable than the English, viz.: that between 45-55; in this the rate is 16·61 in the former against 17·72 in the latter.

For the purpose of a more general analogy the comparative mortality returns are grouped in larger age periods.

Mortality at 5 age periods.

TABLE J.

Groups.	Ages.	Sunderland.	Healthy Districts.	England and Wales.
(*a*)	0-5	1505	747	1,169
(*b*)	5-15	238	165	149
(*c*)	15-45	444	472	496
(*d*)	45-65	377	258	370
(*e*)	65 and upwards...	413	316	372
All	Totals	2,977	1,958	2,556

Groups (*a*) and (*b*) have been already alluded to. The next group of ages (*c*) extends from 15 to 45 years, or just that period of life in which man having run the gauntlet of maternal ignorance, ill-feeding, poverty, and the zymotic diseases, especially diarrhœa, whooping cough, and scarlet fever is engaged in the struggle of life, the daily battle to earn the necessaries for existence for himself and his dependents; and it is here he is found most healthy in Sunderland. The

Ages 15-45 compared with the Healthy Districts and with England.

comparitive mortality figures, group (*c*), are 444 Sunderland; 472 the healthy districts; and 496 England and Wales. To make the matter clearer, if Sunderland mortality be represented by 1,000, then the healthy districts would be represented by 1,061, and England and Wales by 1,117. This feature of Sunderland mortality is the particular bright spot in it. It may be interesting to compare here, although the tables which have been compiled, and which shew this fully, are not given through want of space, the mortality at this age group (*c*), among males and females with that of the healthy districts and with England and Wales.

TABLE K.

	Males.	Females.
Sunderland	208	236
Healthy Districts......	211	251
England and Wales...	257	239

Sunderland Age Distribution favourable to Low Mortality.

Thus the mortality, whether among males or females, between the ages 15-45 is less than that either in the healthy districts or in England or Wales. In other words, the manhood of Sunderland is robust.

Now from the preceding tables the following facts can be adduced:—

1st.—That the population of Sunderland is distributed in a manner distinctly favourable to a low mortality rate.

2nd.—That if the age distributions were the same as in England and Wales the mortality would be much higher than it is.

3rd.—That if our death-rates had been the same for each group of ages as in the healthy districts, our mortality rate would have been only 15·63, and the deaths 1,958, instead of 23·75 and 2,977.

4th.—That if our rates had been the same for each group of ages as in England and Wales, our mortality-rate would have been 20·40, and the deaths 2,556, instead of 23·75 and 2,977.

These are facts that demand our careful and anxious consideration, and which, also, clearly point out to every one concerned in the Health administration of our borough that there is an unceasing war to be waged against every circumstance that will tend in any degree to interfere with the health of the community. The preceding figures, too, point this moral, that every death over and above the deaths of the healthy districts is an unnecessary death, and, therefore, it is necessary to strive to attain as near the standard as possible. High as the aim is, yet it is a noble one—one not destined to be accomplished in a year, or perhaps ten years, but one to be attained by slow, patient toil, and by gradually pulling down the death-rate year after year by 1·0 per 1000, or even by 0·5 in the thousand. To reduce the death-rate from 23·0 to 22·0 per 1000 may not seem to some people to be a great achievement to accomplish in a year; but it only seems so because they do not understand the meaning of death-rates, and hence do not appreciate their significance. They say it is only the reduction of one in the rate, but they forget that that *one* in our population means the saving of 127 lives. This is something to accomplish, and something to work for. It is only when death-rates are reduced to actual numbers that their meanings are clearly seen and fully appreciated. The Medical Officer of Health will feel that this part of his Report has not been written in vain if it should lead to a clearer understanding of these matters, which he has so briefly dwelt on.

Mortality Returns—unsatisfactory nature of.

The Mortality Returns for the year are exceedingly unsatisfactory; although they are not, at the same time, without some noticeable redeeming features, and features, too, which denote an improved sanitary condition of the borough.

Only twice in recent years was the gross number of deaths exceeded, namely—in 1882 and in 1871, when the mortality was respectively 3,146 and 3,966. The death-rates on these occasions were 26·4 and 36·4 per 1000.

Although the gross mortality has only been twice exceeded, yet on six occasions the death-rates have been higher than on the present occasion, namely—1871, 36·4; 1872, 26·9; 1878, 25 8; 1880, 25·2; 1882, 26·4; and 1883, 24·4.

Principally due to Measles.

The great factor in the mortality of the year was Measles, an epidemic of which raged with almost phenomenal violence during the first quarter of the year, and with considerably abated force in the second quarter, The actual number of deaths from it was 385, but this figure, undoubtedly, did not represent all the deaths from the disease. As full particulars of this epidemic are given under the heading "Measles" later on in this Report, it will not now be dealt with. It may be remarked, however, that the 385 deaths represent a mortality rate of 3·07 per 1000 inhabitants, so that, less the Measles, the death-rate of the borough from all other causes was as low as 20·69 per 1000. This, too, is a low death-rate for Sunderland, and tends to prove that the general sanitary condition of the borough was good, as it really was. This epidemic of Measles can not be ascribed to a defective sanitary state, for it is most remarkable that the districts of the borough in which sanitation is worst, namely—Sunderland Parish, happens to be the district that was least affected by it.

Low Death-rate from the other Diseases.

Infantile Mortality.

The deaths arising from infantile mortality were just under the average per 1,000 infants born of the preceding ten years, and, but for 56 deaths from Measles, would have been lower than it has been for many years.

Diarrhœa.

Diseases arising from Diarrhœa were nearly 50 per cent. less than in 1884, and a few less than in 1883, a year notable in Sunderland for the small number of the deaths arising from it.

Improving Sanitary condition of the Town.

The decrease in the deaths from these two classes of mortality is fair presumptive proof of the improving sanitary condition of the town. Indeed, the very excellent condition of the health of the community in the latter quarters of the year, after the subsidence of the Measles, is a strong confirmation that the unceasing endeavours of the Health Committee to perform the work committed to them with zeal is bearing good fruit. Personally, the Medical Officer of Health will be much surprised if the improved cleansing of the town, the substitution of small and improved ash-closets for the open middens, the increasing erection of properly constructed W.C.'s, and the greater care to see that no house is left without a water supply, do not, before long, perceptibly diminish the death-rate of the borough.

The Duties of Householders, &c.

The people, however, have much to do themselves. The Corporation cannot make them clean; they cannot make them keep their houses in that condition in which, to use a homely phrase, "one might eat their meals off the floor," although they can compel them to have their house in such a condition that it shall not be a nuisance. There is, however, a wide difference between the two conditions; and the former is the state which every zealous matron should strive after. Again, they cannot insist on every house-wife burning the vegetable refuse in her home, although this would be a great boon to her family. It would almost to a certainty save headaches, diarrhœa, and perhaps severe throat, stomach, and abdominal derangements. In addition to which it is not improbable that it may prevent so terrible a complaint as diphtheria. Cases have come under the notice of the Medical Officer of Health during the last few years which convince him that sewer gas has been the cause of few of these cases in Sunderland; and he has been driven to the conclusion that very frequently decaying animal and vegetable matter have been the origin of this terrible malady. If the Corporation should have a ventilator to one of the sewers placed opposite a gentleman's house—and that this gives off sewer gas—to a certainty that man will endeavour by every means in his power to get rid of the nuisance. He complains that the foul air from it enters his windows and fills his house, that his family are made ill, and, generally, he will greatly exaggerate the complaint. And yet, in his own house, in the ash-pit, a short distance from his windows, he and his neighbours permit a vile nuisance arising from putrid animal and vegetable matters to exist. Let those who read these words go to their ash-pits and place their nostrils over them, and let them answer this question for themselves—"Is it right that we should allow these nuisances to continue when, by burning the animal and vegetable refuse in our fires, we can entirely get rid of them?" There can only be one conscientious reply. Let the people act up to the answer they make. There can be no doubt that in a midden town like Sunderland the effect would be very great, for the contaminated air of our back streets would be removed. It is not the excreta, for this is covered immediately with ashes, so much as the animal and vegetable matter, that produce the foul emanations.

Corporation can not abate all Nuisances.

The Corporation have done much, very much, of late years to abate these nuisances by more frequently removing the contents of the middens, and cannot be expected to do a great deal more in this direction, for sanitary action is like all things mundane, governed by cost. The people have their complement of duty to do, and it is earnestly hoped they will perform it.

Deaths at different periods of life during 3 years compared.

The death-rates at the different priods of life during the year is given in the following table, together with the rates during the previous ten years—

TABLE I.

Age.	1883.		1884.		1885.	
	Deaths.	Death-rates.	Deaths.	Death-rates.	Deaths.	Death-rates.
0-5	1,136	66·03	1,390	76·51	1,505	88·09
5-15	337	12·2	175	6·04	238	7·93
15-25	164	7·3	135	5·76	120	4·95
25-35	198	11·2	165	8·85	144	7·46
35-45	213	15·9	188	13·38	180	12·36
45-55	217	24·2	188	19·71	159	16·24
55-65	269	45·5	225	36·02	218	33·83
65-75	261	86·6	231	72·68	250	75·62
75-85	135	156·7	167	183·73	138	146·77
85, &c.	31	378·00	24	279·00	25	280·40
All Ages.	2,961	24·43	2,888	23·44	**2,977**	**23·75**

There was an excess of deaths over the proceeding year among children under fifteen years old. This may be more than accounted for by the 385 deaths arising from the epidemic of Measles. At every other group of ages, excepting 65-75 and 85 and upwards, there has been a decrease in the mortality of the borough. In the two exceptional age periods there was an increase of 19 deaths between 65-75, and of one death in the period above eighty-five. The deaths at these two periods are, however, respectively, 11 and 6 below that of 1883.

DEATHS IN THE DISTRICTS.

The following table exhibits the mortality and the death-rates in the various districts of the borough :—

TABLE M.

Sunderland East	232	deaths	=	23·53	death-rate.
,, West	189	,,	=	29·77	,,
Bishopwearmouth North	1024	,,	=	26·40	,,
,, South	878	,,	=	20·81	,,
Monkwearmouth	654	,,	=	23·27	,,
	2977	,,	=	23·76	,,

Sunderland East

The mortality in the Sunderland East district shewed a decrease of 19 deaths on the totals of 1884, when the deaths were 251 in number, and the death-rate was 25·45 per 1,000 of the population.

Sunderland West

Sunderland West also exhibited a decrease on the previous year, when the mortality was 192. There were, therefore, 3 less deaths than in 1884, when the rate was 30·24.

Bishopwearmouth North.

There were 1024 deaths in Bishopwearmouth North compared with 1041 in 1884, and the decrease in the mortality is, therefore, 17, while the death-rate is 26·40 compared with 27·36.

Deaths in Union Hospital.

The deaths in this district included 164 deaths in the Union Hospitals ; of these 10 are referred to the following districts without the borough :—

Ford	0	Ryhope	0
Fulwell	0	Tunstall	0
Hylton (South)	2		
Southwick	8	Total	10

And 154 are referred to the subjoined districts within the borough—

Sunderland East	28
Sunderland West	28
Bishopwearmouth North	47
Bishopwearmouth South	26
Monkwearmouth	25
Total	154

Deaths in House of Recovery.

In the House of Recovery there were also 15 deaths, which should be referred to the following districts :—

Sunderland West	1
Bishopwearmouth North	4
Bishopwearmouth South	4
Monkwearmouth	4
Tunstall (outside Borough)	2
Total	15

Bishopwearmouth South.

The 878 deaths registered in Bishopwearmouth South shew an increase of 55 in the preceding year's returns, when the deaths were 823, and the death-rate was 19·9.

There were 57 deaths in the Infirmary; of these 50 were belonging to the town, and were referred to the following districts:—

Sunderland East	6
Sunderland West	3
Bishopwearmouth North	21
Bishopwearmouth South	8
Monkwearmouth	12
Total	50

Twelve belonged to districts outside the borough, viz.:—Southwick, 4; and Rural Sanitary Area, 8.

Monkwearmouth

The Deaths (654) in Monkwearmouth shewed an increase of 73 compared with the preceding year. The death-rate was 23·2 per 1000 compared with 20·7 in 1884, and with 21·3 in the preceding 10 years.

Table giving the Death-rate in the Districts for the year 1885, together with the rates for the previous ten years, with and without the deaths in the Union Hospital and Infirmary; also the average rate for the ten years (1875-84.)

TABLE N.

Years.	Sunderland East & West.	Bishopwmth. North.		Bishopwmth. South.		Monkwearmth.
		Whole District.	Less, Deaths at Union.	Whole District.	Less, Deaths at Infirmary.	
1885.	**25·9**	**26·4**	**22·1**	**20·8**	**19 4**	**23·2**
1875	24·6	24·6	20·4	23·3	22·0	17·4
1876	21·5	23·6	19·0	19·4	18·1	19·1
1877	22·8	25·9	20·6	20·6	19·3	20·5
1878	29·3	28·6	23·5	23·4	22·0	22·0
1879	20·0	25·3	20·0	22·5	21·4	18·5
1880	20·4	32·4	26·5	22·4	20·8	23·4
1881	23·8	22·0	17·1	19·0	18·0	21·0
1882	35·5	25·2	20·8	23·2	22·1	27·7
1883	25·4	25·3	19·3	24·2	*19·2	23·2
1884	26·3	26·8	22·3	19·6	18·0	20·7
Avrge. for 10 years.	24·8	25·9	20·8	21·7	20·0	21·3

* This is also less the Victoria Hall deaths.

In the succeeding table the influence on the death-rate of the borough arising from the deaths of persons not belonging to Sunderland, who died in the public institutions, is exhibited.

It is interesting to note that of the 22 persons who died in the public institutions of the borough, and who were not belonging to Sunderland, 12 belonged to Southwick and 10 to the Rural Sanitary Authority's Area.

TABLE O.

Year.	Deaths of all Persons in the Borough.	Deaths in Union and Infirmary.	Deaths of persons in Union and Infirmary, belonging to Southwick and in the Urban Districts.				Deaths of all Persons belonging to Sund'land	Death-rates of Persons belonging to Sundlnd.	Death-rate of all Persons dying in the Borough.
			In Union.	In Infirmary.	South-wick-	Rural Distr'ts.			
1885.	**2,977.**	**221**	**10.**	**12.**	**12.**	**10.**	**2,955**	**23·3**	**23·7**
1874	2,435	167	7	7	2	12	2,421	23·3	23·4
1875	2,385	166	2	10	2	10	2,373	22·4	22·5
1876	2,262	167	9	14	7	16	2,239	20·8	21·6
1877	2,487	204	7	3	3	7	2,477	22·6	22·7
1878	2,864	195	9	12	5	16	2,843	25·5	25·8
1879	2,507	202	5	10	4	11	2,492	22·0	22·2
1880	2,901	212	13	10	9	14	2,878	25·0	25·2
1881	2,436	211	12	7	9	10	2,417	20·7	20·8
1882	3,146	196	16	9	11	14	3,121	26·2	26·4
1883	2,961	285	19	11	14	16	2,931	24·2	24·4
1884	2,888	246	13	11	10	14	2,864	23·2	23·4
Average of 11 yrs 1874-84.	2,661	204	10·1	9·4	6·9	12·7	2,641	23·1	23·3

MORTALITY IN THE QUARTERS.

The quarterly returns give the following figures for the 4 periods of the year :—

TABLE P.

1st Quarter .. .. 1058 deaths = 33·7 death-rate.

2nd Quarter .... 709 „ = 22·6 „

3rd Quarter .... 638 „ = 20·3 „

4th Quarter .... 572 „ = 18·2 „

Whole Year......2,977 „ = 23·7 „

In the earlier part of the year the epidemic of Measles was at its height in the borough, and out of 1058 deaths was accountable for no less than 310. In addition to these, many deaths were ascribed to Pneumonia and Bronchitis, which were, undoubtedly, due to Measles that had been either unrecognised or had been the result of a prior attack of that disease.

1st Quarter.

The death rate for the first quarter was higher than in any period since 1874. Measles alone, without Bronchitis or Pneumonia, caused an increase in the death-rate which was equal to an annual rate of 9·89 per 1000. As the epidemic subsided the death-rate from all causes gradually fell, and the borough quietly passed into a healthy condition. Indeed, if it had not been for this epidemic the borough would have enjoyed one of the healthiest years it had ever known. As a comparison of the death-rates in the quarters with those of the corresponding quarters in the preceding years is sometimes very useful, the annexed table is given.

TABLE Q.

Years.	1st Quarter.		2nd Quarter		3rd Quarter.		4th Quarter.		Whole Year.	
	Dths	Death-Rates.	Dths	Death-Rates.	Dths	Death-Rates.	Dths	Death-Rates.	Dths	Death-Rates.
1874	600	23·1	517	20·1	619	24·0	699	26·8	2435	23·4
1875	707	26·7	559	21·2	588	22·2	531	20·0	2385	22·5
1876	522	19·4	511	18·9	605	22·5	624	23·1	2262	21·6
1877	655	23·8	633	23·1	578	21·0	621	22·6	2487	22·7
1878	670	24·0	737	26·3	782	27 9	672	24·1	2864	25·8
1879	703	25·0	631	23·1	556	19·5	597	20·8	2507	22·2
1880	650	23·0	649	22·8	812	29·0	790	25·1	2401	25·2
1881	681	23·4	574	19·8	588	20·2	593	20·4	2436	20·8
1882	683	23·1	659	22·2	840	28·3	964	32·5	3146	26·4
1883	842	27·9	663	22·0	833	27·5	623	20·6	2961	24·4
1884	691	22·4	661	21·4	725	23·5	811	26·3	2888	23·4
Average 11 years	673	23·78	617	21·80	684	24·18	684	24·17	2661	23·50
1885	1058	33·7	709	22·6	638	20·3	572	18·2	2977	23·7

TABLE R.

Table shewing the classified causes of deaths in each of the Four Quarters.

	Quarters.				Whole Borough
	1	2	3	4	
I.—SPECIFIC FEBRILE OR ZYMOTIC DISEASES—					
1.—Miasmatic Diseases	363	137	48	41	589
2.—Diarrhœal	5	12	58	7	82
3.—Malarial	..	..	..	..	..
4.—Zoogenous	..	..	..	..	..
5.—Venereal	3	4	5	5	17
6.—Septic	10	5	8	7	30
II.—PARASITIC DISEASES	..	1	..	..	1
III.—DIETIC DISEASES	..	1	3	..	4
IV.—CONSTITUTIONAL DISEASES	116	100	99	77	392
V.—DEVELOPMENTAL DISEASES	67	49	39	46	201
VI.—LOCAL DISEASES—					
1.—Diseases of Nervous System	107	102	107	87	403
2.—Diseases of Special Sense	..	..	..	1	1
3.—Diseases of Circulatory System	41	37	46	46	170
4.—Diseases of Respiratory System	206	133	97	136	572
5.—Diseases of Digestive System	32	31	38	30	131
6.—Diseases of Lymphatic System	..	..	..	..	..
7.—Diseases of Glandlike Organs of uncertain use	..	..	..	..	..
8.—Diseases of Urinary System	12	4	12	13	41
9.—Diseases of the Reproductive System—					
(*a*) Organs of Generation	1	1	2	2	6
(*b*) Diseases of Parturition	3	4	..	4	11
10.—Diseases of Bones and Joints	3	3	3	2	11
11.—Diseases of Integumentary System	1	1	4	4	10
VII.—VIOLENCE—					
1.—Accident or Negligence	23	14	10	18	65
2.—Homicide	2	1	..	..	3
3.—Suicide	2	2	..	2	6
VIII.—ILL-DEFINED AND NOT SPECIFIED CAUSES	61	67	59	44	231
Totals	1058	709	638	572	2977

ZYMOTIC DISEASES.

Zymotic diseases above the average.

The Zymotic mortality was considerably above the average of the previous ten years. The relative rates per 1,000 inhabitants were, in 1885, 5·34, and in the ten years 4·22. The number of deaths last year was 670, whereas the average number for 10 years has been 482; again, the proportion of deaths from these diseases to the deaths arising from all causes was, in 1885, 225 per 1,000, compared with 179 increase per 1,000 from 1875-84. This is a very serious matter, and deserves careful consideration.

Zymotic diseases

The following table, abridged from tables V. in appendix, shews plainly the diseases which have increased.

TABLE S.

Diseases.	Average. 1875-84.	1884.	**1885.**
Smallpox	14	84	17
Measles	46	9	385
Scarlet Fever	147	46	106
Diphtheria	11	13	12
Whooping Cough..............	80	95	32
Typhus Fever	20	11	16
Enteric ,, ...	28	13	16
Simple Continued Fever......	5	4	4
Diarrhœa	130	150	82

Smallpox, Diphtheria, and Measles were the only diseases which shewed an excess over the average for 10 years. The 17 deaths from Smallpox were the last arising from the epidemic which had been present in the borough since the latter part of 1883. Diphtheria, from which were registered 12 deaths, gave an increase of one above the average, while there was one less death from it than in the year immediately preceding.

All other infectious diseases, it is most gratifying to notice, were below the average of the preceding 10 years. Thus Scarlet Fever carried off 41 less than its average; and Whooping Cough 48, Typhus Fever 4, Enteric Fever 12, Continued Fever 1, and Diarrhœa 48 less than their averages.

Cause of the Increase from Zymotics.

The mortality arising from Measles was the principal cause of the large increase in the Zymotic death-rate. This rate, if the rate from Measles be deducted, but allowing its annual average of 46 deaths, would have been 2·64 per 1,000 inhabitants, a rate which is considerably below the average (4·22) for the 10 years. During the last two years, notwithstanding that there has been a decline in the number of deaths from the great bulk of the infectious diseases, there have been epidemics of Smallpox and of Measles, which more than counterbalanced the good results arising, it is believed, from improved sanitary conditions. There is this, however, to be recollected, that it is more than probable if there had not been this improved condition, there would, in all human probability, have been a largely increased mortality from the infectious diseases, especially from Smallpox.

Notification of Infectious Diseases.

Prior to the passing of the "Borough of Sunderland Act" last August the notification of infectious diseases by the Medical Profession practising in the borough was entirely voluntary. The new Local Act, however, gave power to the Corporation to compel them to report the principal infectious diseases.

In the earlier part of the year no such law existed, and its want was very seriously felt during the epidemic of Measles, when it was impossible to obtain information of all the cases which arose, and, consequently, some parents continued to send their children to school after the disease had appeared in their houses. Such an occurrence could not have happened if notification had been in force. It is true that Measles is not one of the diseases which are to be notified under ordinary circumstances, but only if the disease assumes epidemic dimensions. Clearly such a condition occurred during the early part of the year when the information would have been most valuable.

In Table T., page 21, all the cases of infectious diseases which became known to the Sanitary Authority are given. The *italics* denote the deaths and the ordinary figures the cases. They are arranged in districts and in quarters.

TABLE T.

Diseases.	Sunderland E.					Sunderland W.					Bishopwearmth N.					Bishopwearmth S.					Monkwearmth.					Whole Borough.				
	1st quarter.	2nd quarter.	3rd quarter.	4th quarter.	Totals.	1st quarter.	2nd quarter.	3rd quarter.	4th quarter.	Totals.	1st quarter.	2nd quarter.	3rd quarter.	4th quarter.	Totals.	1st quarter.	2nd quarter.	3rd quarter.	4th quarter.	Totals.	1st quarter.	2nd quarter.	3rd quarter.	4th quarter.	Totals.	1st quarter.	2nd quarter.	3rd quarter.	4th quarter.	Totals.
Smallpox	2	5	1	1	9	2	2	...	...	4	10	7	7	4	28	30	8	5	1	44	13	22	5	1	41	57	44	18	7	126
	...	...	...	...	...	...	...	...	...	...	*5*	*7*	*2*	*1*	*15*	...	...	...	...	...	*1*	*1*	...	...	*2*	*6*	*8*	*2*	*1*	*17*
Scarlatina...............	5	...	1	8	14	4	...	...	4	8	10	20	26	99	155	27	28	37	84	176	47	23	45	34	149	93	71	109	229	502
	3	...	*1*	...	*4*	...	...	...	*1*	*1*	*3*	*7*	*8*	*5*	*23*	*7*	*16*	*9*	*10*	*42*	*9*	*16*	*8*	*3*	*36*	*22*	*39*	*26*	*19*	*106*
* Measles	104	45	...	1	150	32	37	...	...	69	395	32	2	2	431	220	46	4	...	270	365	20	1	4	390	1116	180	7	7	1310
	13	*10*	...	*1*	*24*	*14*	*13*	...	...	*27*	*153*	*10*	*2*	...	*165*	*64*	*23*	*1*	...	*88*	*66*	*12*	*1*	*2*	*81*	*310*	*68*	*4*	*3*	*385*
Enteric Fever	...	6	2	2	10	...	...	2	2	4	3	2	6	4	15	2	2	4	7	15	1	1	10	6	18	6	11	24	21	62
	...	*1*	...	...	*1*	...	..	*1*	...	*1*	*3*	*2*	*1*	...	*6*	*2*	*2*	...	*1*	*5*	...	...	*3*	...	*3*	*5*	*5*	*5*	*1*	*16*
Typhus Fever	...	6	17	2	25	...	...	2	10	12	1	4	2	4	11	2	1	7	11	21	2	...	1	2	5	5	11	29	29	74
	...	...	*4*	...	*4*	...	...	...	...	...	*1*	*2*	*2*	*1*	*6*	*1*	*1*	*1*	*1*	*4*	*1*	...	...	*1*	*2*	*3*	*3*	*7*	*3*	*16*
Continued Fever... ...	1	...	...	...	1	...	...	1	...	1	...	...	1	2	3	...	...	1	1	2	1	2	..	...	3	2	2	3	3	10
	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	*1*	...	*1*	*1*	*2*	...	...	*3*	*1*	*2*	*1*	...	*4*
*Whooping Cough ...	...	1	..	3	4	...	...	..	1	1	3	2	...	1	6	3	...	3	4	10	10	9	1	...	20	16	12	4	9	41
	...	*1*	...	*3*	*4*	...	...	...	*1*	*1*	*3*	*1*	...	*1*	*5*	*3*	...	*3*	*4*	*10*	*6*	*5*	*1*	...	*12*	*12*	*7*	*4*	*9*	*32*
Diphtheria	...	1	...	...	1	...	...	...	2	2	...	1	2	10	13	1	1	...	...	2	3	2	1	4	10	4	5	3	16	28
	...	...	...	...	...	...	...	...	*1*	*1*	...	*1*	...	*3*	*4*	*1*	*1*	..	...	*2*	*3*	*2*	...	...	*5*	*4*	*4*	...	*4*	*12*
Puerperal Fever	...	...	1	1	2	...	...	...	...	..	1	..	1	2	4	...	.	3	1	4	3	...	...	...	3	4	...	5	4	13
	...	...	*1*	...	*1*	...	...	...	...	...	*1*	...	*1*	...	*2*	...	...	*3*	...	*3*	*3*	*1*	...	...	*3*	*4*	*1*	*5*	...	*10*
Totals	*16*	*12*	*6*	*4*	*38*	*14*	*13*	*1*	*3*	*31*	*169*	*30*	*16*	*11*	*226*	*78*	*43*	*18*	*16*	*155*	*90*	*39*	*13*	*6*	*147*	*367*	*137*	*54*	*40*	*598*
	112	64	22	18	216	38	39	5	19	101	423	68	47	128	666	285	86	64	109	544	445	79	64	51	639	1303	336	202	325	2166

* These diseases are not notified compulsorily.

N.B.—Figures in italics denote deaths, other figures the cases.

SMALLPOX.

REPORT, 1885.

End of the epidemic.

This disease, which, unhappily, had been epidemic in the borough from the beginning of October, 1882, ceased to attack the public; the last case was reported to the Medical Officer in the middle of November. During the year 126 cases became known to the Health Department, out of which 17 cases died. Into each case an enquiry was made respecting vaccination, to which reference is made further on. Of the total cases 98 were vaccinated and 2 died, or 2·04 per cent.; and of 17 unvaccinated cases 5 died, or 29·4 per cent.; and of 11 cases, about which no information could be obtained respecting vaccination, 10 died, or 90·92 per cent. The number of cases and deaths in each year since the beginning of the epidemic was as follows :--

Year.	Cases.	Deaths.
1882	9	1
1883	379	52
1884	805	84
1885	126	17
Totals.........	1319	154

Record of the epidemic.

These figures give a mortality of 11·67 per cent. As it is very useful to keep a record of the growth and decline of an epidemic of this character, the Medical Officer now endeavours, in continuation of his previous Reports, to shew the march of the disease in the borough during the year.

January 15th.

January 29th.

Thus, at the Health Committee of January 15th, he reported three cases—two at Avon Street and one at Queen Street West. At the following meeting three new cases were reported, one of which was that of a charwoman, who was then employed at the Mayor's house. The Health Department received information which proved that she knew the nature of the disease some four days before it was reported, so that it appears that this woman went about her usual avocation without telling anyone of the existence of the disease. One might reasonably expect that at least the Mayor's house and family would have been spared even the possibility of the disease entering it in a manner like this. Fortunately, however, no ill results followed.

February 12th.

On February the 12th nine cases of the disease were reported. Two cases occurred at 11 and 12, Avon Street, and were the continuation of a line of infection which began at 10, Avon Street on December 14th, 1885, spreading to No. 12, and thence to No. 11. Another of the cases reported at this meeting was contracted at Cardiff; while another case was that of a man who caught the disease from his step-son prior to the removal of the latter to Hospital in December.

February 26th.

Eight cases of Smallpox were reported on February 26th, of which six entered Hospital, two positively refusing to avail themselves of the facilities offered for isolating the disease.

REPORT, 1885.

March 12th.

In the succeeding Fortnight nine cases of Smallpox were reported, and, with one exception, were taken into Hospital.

March 26th.

Example of the difficulty in inducing persons to enter Hospital.

On the 26th a death was reported from Smallpox to the Health Committee, viz.: G——W——39 years, living at 99, Victor Street, Monkwearmouth, about which the Medical Officer made the following report:—

> "It may be recollected that a little time ago—February 26th—I reported the death of a man at this address. On the case becoming known I visited the patient, who, with his wife, occupied two fairly good rooms, and I strongly advised the patient to consent to removal to Hospital. I pointed out to him that the probability of his recovery would be much enhanced by treatment in Hospital. But he refused; nor would his wife listen to reason. After nearly an hour's futile conversation I left them. I informed the wife of the tenant upstairs of the nature of the disease, and advised such precautions as it was possible to take. The patient died, and I have now to report the death of the upstairs tenant at the House of Recovery. He leaves a wife and several children."

The inutility of the 124th Section of the Public Health Act.

The first of these cases was one which, in the opinion of the Medical Officer, if he had had the power, ought to have been compulsorily removed to the House of Recovery. Unfortunately, the 124th section of the "Public Health Act, 1875," did not allow him to act as he would have liked, for it only provides that—"Any person who is suffering from any dangerous infectious disorder, and is without proper lodging or accommodation, or lodged in a room occupied by more than one family, can be removed to any suitable Hospital or place for the reception of the sick." From this it will be seen that in as much as this patient did not come within the prescribed conditions he could not be removed. The clause is framed in the interest of the individual, and not of the public.

As the law stands any person suffering from no matter what disease, no matter how dangerous that disease may be to the members of his own family, to his fellow men living in the same house, or to the general public who may have business in that house, can defy the Authority to remove him to a suitable hospital so long as he has accommodation for his own proper care and treatment; and even so long may he remain a danger to the community at large.

124th Section of the Public Health Act, 1875, requires alteration.

A law such as this requires, nay, demands a speedy alteration. Similar cases have again and again cropped up in the borough during the administration of the present Medical Officer of Health, and the complaint that he now makes is one that has often been uttered by men holding a similar position to his own. There can be no doubt that if the first case in this house had been removed a widow would not to-day be anxiously endeavouring to earn a small pittance, which at best is all that a woman can earn, for the support of herself and her children.

April 9th.

At the following fortnightly meeting 13 cases were reported, to one of which special attention was drawn. The patient

REPORT, 1885.

Another example of the difficulty of removing patients.

lived at Look-out Hill, in a tenemented house, and was very similarly circumstanced, as regards accommodation, to the case just commented on. The man had been ill and under treatment for a week before the case was made known to the Health Department, and then the information arrived on a Sunday. The Medical Officer at once visited the patient, and advised his removal, but unsuccessfully. The former, therefore, brought the influence of his Priest to bear on him, when a reluctant consent was gained. The Inspector took the ambulance to the house, but to his astonishment he was told that the Medical Attendant did not consider it safe to remove the case. Consequently, the patient was not removed that day, and the Medical Attendant was communicated with, and asked if this was really his opinion. The reply received stated that he (the Doctor) thought that under the circumstances the patient might be removed.

When, however, the Doctor's consent was gained the patient's wife flatly refused to allow her husband's removal to the House of Recovery. Ultimately, the Medical Officer was most reluctantly compelled to apply to the Magistrates for a removal order. In commenting on this the Medical Officer remarked that—

> "It is eminently unsatisfactory that a case like this should be allowed to remain in a house with other tenants; and, further, that friends were actually allowed to visit the man while ill. All the activity and energy of the Officials in their endeavours to stamp out Smallpox are frustrated when a case such as this is not promptly reported, and the patient encouraged by the Medical Attendant to enter Hospital. It also shows how necessary is the compulsory notification of infectious diseases."

June 4th to July 2nd.

From this time cases of this loathsome disease became fewer and fewer, so that on June 4th the Medical Officer remarked that only four new cases had occurred in the preceding fortnight, which were the smallest number notified in any of the fortnights of the year. In the two preceding fortnights the figures were four and four. During the succeeding fortnight eight cases were reported, while in that ending July 2nd three cases were known.

July 18th.

July 30th.

At the next meeting six cases of Smallpox were made known; while in the fortnight ending July 30th four cases were notified. Three of these were members of a family living in Bamborough Street, and were all unvaccinated. Their father was a strong anti-vaccinationist. All these cases were very severe, and it is a remarkable fact that the other members of the family who had been protected by vaccination, did not contract the disease. At the succeeding meeting no cases were reported, nor yet at the meeting of September 10th, on which occasion the Medical Officer of Health was able, for the first time, to give a return of the diseases compulsorily notified by the profession under the powers obtained from Parliament in the

Protection by Vaccination.

September 10th.

Smallpox (Contd.)

Borough of Sunderland Act, 1885. At the two succeeding meetings one and three cases were respectively notified, while in the fortnight ending October 22nd two cases were made known; and at the succeeding meeting, November 5th, one case, which is not only remarkable as being the last case of the epidemic, but also for reasons which will be presently pointed out.

October 22nd.

November 5th.

Another example of the insufficiency of 124 Sec. Public Health Act, 1875.

At the meeting of October 22nd the following report was made by the Medical Officer to the Committee, which he thinks is necessary now to print in detail because of its special features, and as further illustrating the insufficiency of the 124th Section of the Public Health Act:—

"Among the cases of Smallpox there is one to which I wish to draw particular attention, because it exhibits how powerless the Health Officer is if the patient should have proper lodging and accommodation for himself, even though living in a Hotel; and also shows how little dependence can be placed on the word of people when the observance of the instructions of the Health Officers means a slight pecuniary loss. The case to which I desire to refer is that of Capt. H——G——, a Spaniard, who was removed from the ——Hotel on the 16th October, the case being reported by Dr. X.

On the 21st September, while I was absent in Glasgow and Edinburgh with the Hospital Deputation, Dr. Z. reported a case of Smallpox at the——Hotel—the child of the proprietor—and on doing so made a special request that the case should not be visited by myself or by the Inspectors, as every precaution had been adopted, and the child was perfectly isolated.

On my arrival at the office on the 23rd September, on seeing this notification, I at once visited the hotel, being a place of public resort, notwithstanding the request; and was shown at once by the proprietor the place where the child was isolated. There are three houses in this hotel, and the patient was placed in a room at the top of the house most remote from that part in which the business is principally carried on.

The room was situated at the end of a long corridor, at each extremity of which I found double sheets hanging, saturated with carbolic acid to prevent the spread of infection; and I am forced to say that so far as isolation can be carried out in private houses it seemed to be carried out in this. Nevertheless, I deemed it my duty to impress on the proprietor the necessity of removing the patient to Hospital. He, however, in a very angry manner, declined, and said that I wanted to shut up his house. His wife next appeared and invited me to speak with her. I then advised her to send the child to Hospital, but she also declined: saying, that their doctor did not think it necessary, and even if he did, she would not allow the child to go: she added that if in the first instance he had advised the child to enter the Hospital she would have consented.

I then asked her if she had any people staying in the house, and she said, 'only two Spaniards.' I told her that she must inform them that there was Smallpox in the house so that they might have an opportunity of going elsewhere, if they so desired. This she readily promised to do. I also requested her to have herself and husband re-vaccinated, and I understand this was afterwards done.

Finally, I requested her when Dr. Z. called to consult with him again as to the removal of the case to Hospital, and to let me know the result during the day. The reply I received was a very indignant letter from Dr. Z. for daring to visit the house.

Two days afterwards to make sure that no lodgers were then in the house, I sent Inspector McKay to make an enquiry, and in reply he was informed by Mrs. ——— that the hotel was empty, and that no persons would be received there until the disease had gone.

Smallpox (Contd.)

Learning that Dr. Z. had only been acting for Dr. X. who was from home, I called on the latter on his return and informed him of what had occurred. He expressed regret that I should have been caused annoyance, and was exceedingly sorry that the patient had not been removed to the Hospital.

On the 7th of October Dr. X. reported that the father of the patient had been attacked. I had him at once removed to the House of Recovery; fortunately for him he had been just re-vaccinated, and was an extremely mild case.

On the 16th inst. Dr. X. again personally reported another case at this house, viz. : that of the Spanish Captain H. G——. I need not add that I was exceedingly astonished to find that Mrs. —— had not only broken her word to me as to informing this gentleman of the presence of Smallpox in her house, but had told a deliberate untruth to Inspector McKay when he asked her if she had any persons staying there.

At present this patient is in the House of Recovery under the care of Dr. X. and myself, and I regret to add, is in great danger of losing his life.

There cannot be a shadow of a doubt that if the little lad had been removed in the first instance no other case would have been heard of.

Unfortunately the 124th Section of the Public Health Act seems to think more of the patient than of the public safety, for it is only when he has not sufficient accommodation for himself that he can be removed. Hence in this case I was powerless to remove the first patient.

This is a great oversight which I trust may soon be altered, for, no matter how well isolated, there can be no question that a hotel is not the place to allow a case of infectious disease to remain."

Capt. H. G.—— died a few day after the above report was presented to the Committee ! Comment is superfluous !

VACCINATION.

Vaccination.

There were altogether 126 cases of smallpox reported during the year. Of these 10 were under 5 years of age.

The following table exhibits the condition of the patients as regards vaccination. Great trouble was taken to obtain correct information respecting each case, and whenever it was uncertain or unknown that the patient had been vaccinated it was entered as an unknown case.

TABLE U.

Ages.	Vac.	Unvac.	Unknown	Total.
Under 1 year	..	3	...	3
1-2	3	1	...	4
2-3	...	...	...	...
3-4	1	1	...	2
4-5	1	...	...	1
Total 0-5	5	5	0	10
5-10	9	3	2	14
10-15	22	2	2	26
0-15	36	10	4	50
Ages.	Vac.	Unvac.	Unknown	Totals.
Bt fwd	36	10	4	50
15-20	20	4	...	24
20-25	10	2	1	13
25-35	14	...	5	19
35-45	14	1	1	16
45-55	3	...	...	3
55-65	1	...	...	1
65-75	...	...	...	...
75 and upwds.	...	...	...	...
All ages.	98	17	11	126

The following are some of the facts deducible from the above table :—

(*a*) Out of 126 cases 10 were under five years old; or just 7·93 per cent.

(*b*) 116 were over five years of age; or just 92·07 per cent.

(*c*) Of the 10 cases under five years 5 were vaccinated, or 50 per cent., and 5 were unvaccinated, or 50 per cent.; but as there were 18,532 children living in the borough at this age, of whom 97·8 per cent., or about 18,123 were vaccinated, and 409 unvaccinated, the relative figures of the attacked to the numbers were in the case of the vaccinated 0·27 per 1000, and in the case of the unvaccinated 12·2 per 1000; and of the cases attacked none died among the vaccinated (*vide* Table III., appendix), and two died, or 40 per cent. among the unvaccinated.

(*d*) Of the 116 cases over five years 93 were vaccinated, or 80·18 per cent; and 12 or 10·34 per cent. were unvaccinated; and 11 or 9·48 per cent. were unknown, On reference to Table III. in appendix it is seen that two died among the vaccinated cases, or 2·15 per cent., and that 3, or 25 per cent. died among the unvaccinated cases, and finally, that out of 11 cases in which condition as to vaccination was unknown 10, or 99·9 per cent. died.

(*e*) Of all the 126 cases attacked 98, or 77·78 per cent. were vaccinated, of which 2, or 2·04 per cent. died. Of the total cases 17, or 13·49 per cent. were unvaccinated, of which (*vide* Table III., appendix) 5, or 29·41 per cent. resulted fatally. And finally, in 11 cases, or 8·73 per cent. the particulars of vaccination could not be obtained, and of these 99·92 per cent. died.*

This subject is treated more fully below when dealing with

VACCINATION DURING THE EPIDEMIC OF SMALLPOX, 1883-1885.

During the recent epidemic of smallpox very considerable trouble was taken to obtain the particulars respecting the vaccination or non-vaccination of every case that came under the cognizance of the Medical Officer or the Officials of the Health Department. The result has been that information of a very extensive character has been obtained, and it is hoped, so far as opposition to vaccination in this town is concerned, that it will tend to allay it, trivial though that opposition may be.

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* The Medical Officer has reason to believe that the greater number of these were unvaccinated.

REPORT, 1885.
Vaccination (Contd.)

Before proceeding to discuss the question there are a few particulars respecting the population and the condition of vaccination in the borough which it will be well to keep in mind.

1.—The average population during the period in which the epidemic prevailed was 123,151 persons.

2.—The average number of persons under five years old for the same period was 18,219, and from 5-10, 15,705.

3.—The per centages of vaccinated and unvaccinated infants in the borough, after making deductions for removals into other unions, and for deaths prior to vaccination, during the 10 years 1875-84 (inclusive), are as follows :—

1875	98·30	per cent.	Vaccinated.	1·70	per cent.	Unvaccinated.
1876	97·36	,,	,,	2·64	,,	,,
1877	98·34	,,	,,	1·66	,,	,,
1878	97·06	,,	,,	2·94	,,	,,
1879	98·18	,,	,,	1·82	,,	,,
1880	98·22	,,	,,	1·78	,,	,,
1881	97·77	,,	,,	2·23	,,	,,
1882	97·62	,,	,,	2·38	,,	,,
1883	97·98	,,	,,	2·02	,,	,,
1884	97·30	,,	,,	2·70	,,	,,
Aver.(1875-1884	97·80	,,	,,	2·20	,,	,,
Aver. 5 yrs. 1880-1884	97·75	,,	,,	2·25	,,	,,

4.—From 2 and 3 the following figures are calculated, that during the three years in which the epidemic continued there were living in the borough

33,175 vaccinated children under 10 years.
and 749 unvaccinated ,, ,,

while under 5 years there were

17,807 vaccinated, and
412 unvaccinated.

5.—It is estimated that one person in every nineteen of the population is unvaccinated, so that there was during the epidemic an average of 116,670 persons vaccinated, and of 6,481 persons unvaccinated living in the borough.

Vaccination (Contd.)

These facts being borne in mind it will be easier to understand the significance of the subjoined table.

TABLE V.

Shewing the ages of the persons attacked with Smallpox in each year at 15 age periods, and in the 3 years, together with the Nos. Vaccinated, Un-vaccinated, or Unknown.

Ages.	1883.				1884.				1885.				TOTALS. 1883-1885.			
	Vac.	Un-vac.	Un-kwn.	All C'ses.	Vac.	Un-vac.	Un-kwn.	All C'ses.	Vac.	Un-vac	Un-kwn.	All C'ses.	Vac.	Un-vac.	Un-kwn.	Tot'ls
0-1	0	4	1	5	6	19	....	25	....	3	....	3	6	26	1	33
1-2	2	....	2	4	12	4	....	16	3	1	....	4	17	5	2	24
2-3	2	1	3	6	8	6	3	17	....	....	....	....	10	7	6	23
3-4	....	3	....	3	11	2	1	14	1	1	....	2	12	6	1	19
4-5	1	4	....	5	11	4	1	16	1	....	....	1	13	8	1	22
Total under 5 yrs.	5	12	6	23	48	35	5	88	5	5	....	10	58	52	11	121
5-10	28	9	5	42	80	22	10	112	9	3	2	14	117	34	17	168
10-15	33	5	5	43	134	18	5	157	22	2	2	26	189	25	12	226
15-20	43	1	6	50	117	8	4	129	20	4	....	24	180	13	10	203
20-25	32	3	6	41	94	10	11	115	10	2	1	13	136	15	18	169
25-35	26	2	6	34	116	3	5	124	14	....	5	19	156	5	16	177
35-45	12	1	1	14	50	3	3	56	14	1	1	16	76	5	5	86
45-55	3	....	1	4	18	1	....	19	3	....	....	3	24	1	1	26
55-65	3	....	....	3	2	....	....	2	1	....	....	1	6	....	....	6
65-75	....	....	....	....	2	....	....	2	....	....	....	....	2	....	....	2
75, &c	....	....	1	1	1	....	....	1	....	....	....	....	1	....	1	2
All Cases.	185	33	37	255	662	100	43	805	98	17	11	126	945	150	91	1136

N.B.—Special enquiries relating to Vaccination were not begun to be made until October 7th, 1883, therefore, the above statistics relate only to that part of the epidemic extending from that date to its close in 1885.

Cases among vaccinated children, 0-5.

Among the vaccinated children under five years there were 58 cases, which are equal to 3·25 per 1000 of the vaccinated children at the same age.

Unvaccinated, 0-5.

Among the unvaccinated at the same age there were 52 cases, which are equal to 126·21 per 1000 of the unvaccinated children.

Vaccinated, 0-10.

Among the vaccinated children under 10 years old there were 175 cases, which are equal to 5·27 per 1000 of the total number vaccinated.

Unvaccinated, 0-10.

Among the unvaccinated children at the same age there were 86 cases, or 114·82 per 1000 of the total number unvaccinated.

Vaccinated cases all ages.

Among persons at all ages there were 945 cases vaccinated, which are equal to 8·10 per 1000 of the vaccinated population.

Unvaccinated cases all ages.

Among unvaccinated persons at the same ages there were 150 cases, or 23·14 per 1000 of the unvaccinated population.

REPORT, 1885.
—
Vaccination
(Contd.)

Among vaccinated persons over 10 years, of whom it is estimated there were 83,495 in the borough, there were 770 cases, or 9·22 per 1000.

Similarly among unvaccinated persons at the same age, of whom it is estimated there were 5,732 in the borough, there were 64 cases, or 11.16 per 1000.

From the latter, however, must be deducted a very large number of the adult population who in earlier years had been attacked with smallpox, and who were consequently protected. It is very difficult to ascertain how many such persons there are, but it is known that the number was large. The attacks per 1000 of the unvaccinated population were really very much higher than they appeared.

It is unfortunate it is not possible to distribute the unknown cases, because it is almost certain that the greater portion of them were unvaccinated; yet, as there was some doubt about these cases, they were omitted from the calculations.

TABLE W.

	CASES.			DEATHS.		
Ages.	Vaccinated.	Unvaccinated.	Unknown.	Vaccinated.	Unvaccinated.	Unknown.
0-1	6	26	1	1	17	0
1-2	17	5	2	3	1	...
2-3	10	7	6	1	4	1
3-4	12	6	1	...	3	...
4-5	13	8	1	...	2	...
Total...0-5	58	52	11	5	27	1
5-10	117	34	17	5	6	4
10-15	189	25	12	4	5	2
15-20	180	13	10	4	5	...
20-25	136	15	18	7	3	3
25-35	156	5	16	9	4	8
35-45	76	5	5	9	2	1
45-55	24	1	1	4	...	...
55-65	6	...	...	1	...	...
65-75	2	...	...	1	...	...
75 & upwds.	1	...	1	1	...	1
All Ages.	945	150	91	50	52	20

The figures that have been quoted afford incontrovertible proof of the allegations of the medical profession regarding vaccination, that it has very great power in early life, Vaccination (Contd.

especially in preventing smallpox, and that as the years roll on it gradually loses its power of protection against attack, although it modifies it. These facts are clearly shown by the statistics. On the other hand the Profession affirm that re-vaccination is an almost certain preventive of the disease, and so far as the Medical Officer of Health has been able to gather information, this seems proved in Sunderland. During the whole epidemic only three cases came under notice in which there had been re-vaccination; and in these cases the patients had been re-vaccinated within 12 days of the disease making its appearance. This proves that the patients had been seized with smallpox before they were re-vaccinated. But if vaccination in early life cannot ward off the disease for a whole life time, it certainly greatly modifies the disease throughout life, albeit its power of modification may grow less as life advances. The Table W exhibits the cases and deaths of the epidemic:—

Re-Vaccination.

Protecting power of vaccination against Death, 0-5 years.

There it is seen that out of a total of 58 cases of vaccinated children under 5 years only 5 died, or 8·62 per cent; while of 52 children who were unvaccinated 27 died, or 51·92 per cent.—8·62 per cent. vaccinated against 51·92 per cent. unvaccinated!

5-10 years.

In the period between 5 and 10 years of age, out of 117 vaccinated cases 5 died, or 4·27 per cent.; while out out 34 unvaccinated cases 6 died, or 17·64 per cent.

0-10 years.

Of all vaccinated cases under 10 years old, of which there were 175, 10 died, or 5·71 per cent; while of the 86 cases of unvaccinated persons at the same age 33 died, or 38·37 per cent.

There were 770 vaccinated cases among persons over 10 years old, out of which 40 died, or 5·19 per cent.; and out of 74 unvaccinated cases at the same age there were 19 deaths, or 25·26 per cent. Again, out of 945 vaccinated cases at all ages there were 50 deaths; while out of 150 unvaccinated cases 52 died, or 34·66 per cent.

All Ages.

These figures prove in a most conclusive and incontrovertible manner that the protection afforded by vaccination against death from smallpox is no sham, but that it is real and most effectual.

Probable Mortality if there had been no vaccination.

If vaccination had been no protection in the above cases then instead of 5·29 per cent. of deaths there would have been 34·66 per cent of deaths, among the vaccinated; in other words, that instead of 50 deaths there would have been 327, or over six times as many deaths as actually occurred. Figures such as these really require no comment—they speak loudly to all persons gifted with common sense.

Much more might be made out of the figures as regards the efficacy of vaccination, but in an ordinary report of circumscribed limits, this is not possible. The Medical Officer of Health hopes, however, to deal with them in another place, where they may be fully discussed on their merits.

REPORT, 1885.
—
Measles.

MEASLES.

The year 1885 in the Health Annals of Sunderland will be long memorable for the virulent epidemic of measles, which, commencing at the close of 1884, raged throughout the first quarter of the year, and gradually died out in the second. It is not too much to say that rarely in these days is a town visited so severely with measles, and there is not a record to be found in the history of the borough of an epidemic which caused such a sacrifice to juvenile life.

Deaths from in preceding years.

The average number of deaths from measles in the 10 years preceding was 46 per annum. It is more than remarkable to notice the manner in which the deaths occur. In one year there were at most a few deaths, while in the following year there were some scores or more. An examination of the returns will clearly show the matter.

1875	5 deaths	1880	**99** deaths.
1876	**42** „	1881	3 „
1877	1 „	1882	**191** „
1878	**93** „	1883	16 „
1879	1 „	1884	9 „
		1885	**385** „

The rule of alternate high and low mortality was constant up to the end of 1883. In 1884, however, there was a change, and no deaths were recorded until towards the end of the year, when nine occurred. Then in the beginning of 1885 indications were giving that the disease meant to deal heavily with the borough, as if for its remissness in 1884.

Before making any remarks on the general features of the disease it may be well first to give a general outline of the history, origin, progress, and decline of the epidemic.

Origin of the Outbreak—Southwick.

Towards the close of the third quarter of 1884 measles became very prevalent in the neighbouring township of Southwick—a township which, it may be said, is so far as health matters are concerned, an integral part of the borough, although, most unfortunately, not under borough control—and gradually assumed a very fatal form. The authority there, no doubt, acting in the best interests of the community, adopted the doubtful expedient of closing the schools, with results that can hardly be said to have been satisfactory. The outbreak naturally attracted the attention of the Medical Officer of Health and the Health Committee, the former of whom put himself in communication with the medical profession of Sunderland asking that he might be informed of all cases occurring in their practice. To this request a hearty response was accorded as soon as the severity of the epidemic was perceived; and for this generosity the medical Officer of Health now begs most gratefully to acknowledge their great assistance, and to thank them most heartily for their kindness.

Measles (Contd.)

The first cases occurred in the borough in November, 1884, the earliest known case being at Dame Dorothy Street. Its origin was obscure, but it was known that the milk supply came from Southwick. The next case occurred at Ayre's Quay Ferryboat house, Bishopwearmouth North, and there is no doubt whatsoever that the disease was contracted at Southwick, where the patient had been visiting. Thus the measles was introduced into that portion of the borough lying immediately opposite to Southwick. The next known case occurred at 18, Wilson Street, November 18th, and its origin was traced to a relative living in the same township. The next cases occurred in streets immediately adjoining Southwick.

It will be seen from the above facts that Sunderland was indebted to the township for this outbreak, and it is a matter of much regret, in the health interests of over 127,000 people, that the smaller community is not under the same sanitary supervision as the larger. The disease caused 6 deaths during the latter part of November and December, 1884, while 23 cases were known to have existed.

Respiratory Diseases.

Diseases of the respiratory organs showed an inclination to increase rapidly, and in the five last weeks of the year, the numbers of deaths were respectively as follows :—10, 18, 13, 8 and 16. These occurred principally among young children, and it is worthy of note that as the epidemic of measles increased in virulence, so also did the number of deaths arising from respiratory diseases also increase. A reference to the disease chart attached to this report will be of the greatest use in understanding the rise and fall of the death rate during this period. In the week immediately preceding that in which the largest number of children died from measles, there were 23 deaths registered from diseases of the respiratory organs, and in the week immediately following there were no less than 24 deaths. This connection between this class of diseases and measles has been well defined and constant, and proves beyond a doubt that many cases must have been associated with the latter disease.

Medical Officer of Health's Report, Feb. 12th.

The first fortnightly report of the Medical Officer of Health showed that 4 deaths arose from measles, while at the same time 22 deaths were registered from respiratory diseases. In the second fortnightly report measles were shown to have caused 11 deaths, and in the 3rd report, that of Feb. 12th, 1885, the Medical Officer reported as follows, having first alluded to the disease at Southwick :—

> "It is now prevalent in nearly all parts of the Borough. It will be seen from my remarks that the first cases were directly traced to Southwick, where the disease must have assumed a very fatal form indeed, for I recently learned quite accidentally (for I received no intimation officially or otherwise from the Authorities there) that at that time (November) the death rate in Southwick was equal to an annual rate of 63 per 1000—a death rate which is altogether unknown in our Borough. What steps the

Measles (Contd.)

Authorities at Southwick took to abate the disease I do not know, except that the very doubtful expedient of closing the Board Schools for a time was resorted to.

Precautions adopted by the Medical Officer of Health.

" Since the last meeting of this Committee, information has been received of 148 cases of the disease, the great bulk of them being in the colliery district, Monkwearmouth.

" I have had handbills printed and circulated in the infected districts, calling on the parents and guardians to keep their children at home, and not to allow them to play with other children when they have disease in their homes. I have also issued a poster to a similar effect.

" Every case is at once reported to the School Board, so that their officials may be able to prevent the attendance at school of children from the infected houses.

" Again I have to note, as I did when measles were previously prevalent, that diseases of the chest, *e.g.* pneumonia and bronchitis, show a large coincident increase, and thus our death rate is considerably augmented.

" The modern system of concentrating large numbers of children in great schools decidedly tends to make the spread of infectious diseases much easier than in former times. My own experience fully bears this out. It was the common cry during the last epidemic of measles, in reply to queries respecting the origin of the complaint, " It was caught at school," " The child came home from school," and the closest inquiry could elicit no other origin.

" It is a heavy price to pay for educating our poorer classes, and should cause the School Board to exercise the greatest vigilance to prevent disease surreptitiously entering the schools.

" Thus I think that at all times, epidemic or no epidemic, every teacher should at least twice a week, on calling over the roll, enquire from the children as to the presence of disease in their houses ; their replies should be duly registered, and where illness was reported the child should be free from attendance until the school officials had called and satisfied themselves of the nature of the ailment. I believe by acting in this, or a similar, manner, we will be spared much of the severity of these recurring epidemics. Some complaints have been made that teachers send their scholars to enquire for absent children, and I have written to the Secretary of the School Board calling his attention to it, and requesting him to order the teachers to discontinue the objectionable practice.

" If the epidemic should increase during the next fortnight the question of closing the schools in the most infected districts would naturally arise. Power is given to the Sanitary Authority under Art. 98 of the Code of Regulations, approved by the Lords of the Committee of Council on Education in 1882, which enacts that the managers must comply with any notice of the Sanitary Authority of the district, requiring the schools to be temporarily closed with a view of preventing the spread of disease. Power is also given to exclude scholars from attendance.

" I may say at once that I can not advise the closing of schools for these reasons—putting aside the serious interference with the educational work of the district—that if the schools be closed the children will be afforded many opportunities, out of doors, of meeting each other, of running in and out of each other's houses, and generally freely mixing with each other.

" Experience in other towns has proved that the closing has been attended with more harm than good. On the other hand (1) I would strongly recommend this Committee to request the School Board to exclude any scholar from attendance in whose homes or houses disease has appeared. (2) I would also advise this Commiitee to recommend that all the Board Schools should be daily freely flushed with air between the school hours, by opening the windows and doors to their fullest extent. (3) That all desks should be systematically cleansed at least once a week ; and (4) that the schools should be fumigated with sulphurous acid every Saturday. I consider these precautionary measures to be necessary, and their adoption to be far preferable to the alternative of closing the schools.

"By making these suggestions a proper responsibility in assisting to avert disease will be placed on the School Board by this authority, and I have no doubt they will zealously perform their duty. Having done this the Authority will have done their part with regard to the attendance of children at school."

It should be mentioned that there were 21 deaths during the last fortnight. During the next fortnight 47 deaths occurred which were equivalent to an annual death-rate of 9·7 ; these together with the deaths among children from respiratory diseases brought up the rate from these two causes alone to 13 per 1000. The deaths from measles were distributed as follows :—

Sunderland East	1
,, West	1
Bishopwearmouth North	26
,, South	9
Monkwearmouth	10
	47

In the same period 287 cases came under the cognizance of the Medical Officer of Health, viz. :—

Sunderland East	16
,, West	8
Bishopwearmouth North	101
,, South	73
Monkwearmouth	87
	287

At the fortnightly meeting the Medical Officer reported—

"I have communicated with all the school proprietors, managers, and teachers in the borough, and I have asked them to adopt precautions similar to those recommended to the School Board.

"I have sent lists daily to the Secretary of the School Board of all the cases which came to my knowledge ; and I have asked him to exclude from school all children living in the infected houses for a month. I also communicated with the teachers of other schools when I became aware that their scholars were ill ; and I have made a similar request respecting these children."

Report of March 12th.

At the next meeting of the Committee, March 12th, the Medical Officer of Health reported as follows :—

"In the fortnight just ended there were no less than 171 deaths from all causes, which are equal to an annual death-rate of 35·6 per 1000 inhabitants. The greater part of this very serious record is due to measles and respiratory diseases among children, the latter of which I look upon as unrecognised measles. 65 per cent. of all deaths were under 5 years of age. The epidemic of measles continues to prevail with the greatest virulence and most fatal results in Bishopwearmouth North, in which district alone 107 cases

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Measles—contd.

came to my knowledge, of which 49 were deaths. In the districts the number of cases and deaths were :—

Sunderland East	35	cases and	4	deaths.
„ West	4	„	1	„
Bishopwearmouth North	107	„	49	„
„ South	81	„	7	„
Monkwearmouth	130	„	10	„
	357		71	

"It must not be understood that these are all the cases in the Borough. I have little doubt that we do not know of a tenth of them. This is a large increment to be ignorant of, but I cannot conceal from myself that it is nearly true. A chemist in High Street informed me that on a recent Saturday Evening he sold over 40 pennyworths of Saffron, a popular but useless remedy for measles ; this may afford some criterion of the great number of cases in the town.

"I exceedingly regret to notice that the School Board have deemed it necessary to summon a number of parents for not sending their children to school. Such action at the present time may do considerable harm, because it will frighten people into sending their little ones at a time when their guardians being perhaps in doubt as to whether the children were sufficiently ill or not to keep them from school, would act most prudently in not allowing them to leave their homes.

"At the commencement of an attack of measles, the disease is as infectious as at any subsequent period of its course, and therefore if a parent is in doubt, the wisest course to adopt is to keep the children at home.

In addition to the deaths from measles there were 13 deaths from suspected measles, which makes the total death-rate from these causes 17·4, while the death-rate from all other causes is 18·2.

"The fatality among children is without doubt increased by the poverty of many of the parents. The prolonged depression in trade, and the strike have rendered the people very poor, and, therefore, they are unable to feed or clothe their children in such a manner as the disease requires.

"It is remarkable that the disease is most fatal in the districts in which those most affected by trade and strikes reside."

March 26th.

In the next fortnight the death-rate rose to the extraordinary height of 46·0 per 1000 per annum of the population, the number of deaths being 216 ; of these 95 arose from measles, and 22 from respiratory diseases among children five years old and under. Such a mortality as this naturally excited a very great deal of interest among the public, and many were the suggestions made to the Medical Officer of Health as to the course he should adopt. Foremost among these was one that he should advise the Health Committee to close the schools in the borough. This, however, he declined to do, for reasons given in the Report of February 12th.

In the following report it will be found that his views met with the approbation of Dr. Buchanan, Medical Officer of the Local Government Board, who, from time to time had been made fully aware of the progress of the epidemic.

"In the fortnight ending 21st March, there were 95 deaths registered from measles, and 22 deaths from respiratory diseases among children 5

Measles (Contd.)

years old and under. These respiratory diseases must be considered as measles. Many of the death certificates have been obtained from medical men, who have only seen the children in the later stage of the disease suffering from pneumonia or bronchitis, not having been called in during the eruptive period, and who consequently can only certify to what they know of the immediate cause of death.

The deaths occurred in the districts as follows :—

“Sunderland East,	4	measles,	1	respiratory	diseases	... 5	Total.
” West,	5	”	2	”	”	... 7	”
“Bishopwmth N....	39	”	5	”	”	... 44	”
” S. .	19	”	8	”	”	... 27	”
“Monkwmth S......	28	”	6	”	”	... 34	”
	95	”	22	”	”	117	

In the preceding fortnight the numbers were :—

“71 measles, 13 respiratory diseases, total 84.

There is therefore an increase of :—

24 measles, 9 respiratory diseases, total 33.

“I consider that the colder weather of the past fortnight and the greater frequency of northerly and easterly winds considerably influenced the mortality. This is easily understood when it is remembered that measles invariably involves some chest complications. It will be found (although medical men do not always insert a secondary cause of death) that a large number of deaths registered from measles had in addition ascribed to the cause of death either bronchitis or pneumonia.

“Thus there were 20 with bronchitis and 18 with pneumonia (I also notice that there were 10 from convulsions as secondary causes).

“Looking at these chest complications, I am forced to the belief that it is only with a return of mild weather that a decided diminution of the epidemic can be expected.

Convulsions a secondary cause of death—increase of.

“I have stated that convulsions have been registered as the secondary cause of several cases; this can be accounted for, to some extent, by the suppression of the rash effecting the chief nervous centre—the brain. I also notice that in the first quarter of last year there were in all 49 deaths registered among children under 5 years of age from tubercular meningitis, inflammation of the brain and convulsions, all diseases affecting the brain and convulsive in character, whereas this year, in 12 weeks, 66 deaths, or an increase of 17 have been registered from the same causes. I have little doubt that the increase is mainly due to suppressed measles.

Uncleanliness.

“The great fatality of the present epidemic is ascribed by nearly every medical man to whom I have spoken, to the weakly condition of the children attacked. But many of the deaths must be attributed to other causes. One doctor told me that his greatest difficulty with his patients' guardians was to induce them to keep their children clean. But many of them positively declined, having an idea that water applied to their children's bodies when ill, will hasten death, forgetting altogether that cleanliness is absolutely necessary in a disease in which the lungs are affected the power of getting rid of effete matter is diminished. To have the lungs working badly, and at the same time to keep the pores of the skin blocked with dirt, is to invite speedy death. Several instances have come to my knowledge respecting the want of care of the children. For example, in a house in Flag Lane, the medical attendant on calling found two children under 3 years very ill with measles, alone in a cold room, and lying on the floor without covering. The mother was out hawking, and the father who was out of employment, was looking for work.

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Measles (Contd.)

"Again, in another instance, the child was alone. Cases of this kind can be multiplied. I also notice that many of the children who die have, so their parents state, been very delicate, and it is found that the parents have been out of work.

"In the fortnight, there were 212 cases reported, viz.:—

Sunderland East	39	cases
,, West	14	,,
Bishopwearmouth North.....................	76	,,
,, South	23	,,
Monkwearmouth	60	,,
	212	

"In the preceding fortnight, 357 cases were reported. The propriety of closing the schools has been constantly before my mind, and it will be recollected that a month ago I gave my reasons for disapproving of such a course of action. I still retain the same opinion. The increasing number of deaths, and the extraordinary height to which the death-rate has attained have naturally caused me very considerable anxiety ; and, having advised a certain course of action to this Committee, I felt a great deal of responsibility rested on me. Having considered the matter, I decided that my best course would be to consult with the Medical Officer of the Local Government Board. I was actuated to this course because I was not aware of any recent epidemic of measles in any of our large towns at all commensurate with that at present existing here, which might guide our actions, and I thought in appealing to the official head of the Sanitary Staff of the Kingdom I would receive the best advice that could be obtained.

"Furthermore, I felt that if the advice I had tendered to this Committee was incorrect, then the sooner it was altered the better. Your Chairman was in London at the time, and I wrote to him, and, on receipt of a communication from him, to the effect that he would go with me to the Local Government Board, I went to London. On visiting Dr. Buchanan, I placed before him all the particulars of the epidemic known to me. He went very carefully into the details, and finally decided that it was not expedient to close the schools, for the resulting good would in all probability be counterbalanced by evils from such closure; and he also entirely concurred with the advice I had tendered to this Committee. He seemed also to be of opinion that in all probabilty the epidemic had now reached its height, and that with the approach of April, with its warmer weather, it would sensibly diminish, and that the death rate would gradually resume its normal condition.

April 9th.

During the fortnight immediately succeeding, the death-rate fell from 46·0 in the preceding fortnight to 40·2, which was equivalent to 193 deaths from all causes ; and at the meeting of the Health Committee held on April 9th the Medical Officer reported that—

"In the fortnight 63 deaths were registered from measles, and 33 deaths from respiratory diseases amongst children. These were distributed as follows:—

Sunderland East...	4	Measles...	2	Respiratory	Diseases....	Total	6
,, West	7	,,	3	,,	,,	,,	10
Bishopwmth N. ...	16	,,	12	,,	,,	,,	28
,, S. ...	24	,,	8	,,	,,	,,	32
Monkwearmouth...	12	,,	8	,,	,,	,,	20
	63		33				96

REPORT, 1885.
—
Measles (Contd.)

"Compared with the preceding fortnight these figures show a decrease of 32 deaths from measles, and an increase of 11 deaths from respiratory diseases, and a decrease of 21 deaths from the two last causes combined.

"This is so far satisfactory, but I do not anticipate that there will be any great decrease in the number of deaths until there has been a week or two of genial weather; that which we are now experiencing, being very cold, is extremely fatal to children suffering from these diseases.

"The total number of cases reported from measles was 137."

April 23rd.

From this date forward there was a steady decrease in the mortality returns, which was entirely due to the decline of deaths from measles; and the Medical Officer was able to report to the Committee at their meeting on the 23rd April, that—

"There were 32 deaths from measles during the fortnight, compared with 63 in the preceding fortnight, and there is a decrease of 63 deaths on the returns of 4 weeks ago. This is a substantial decrease, and I have every reason to think it will continue. In the fortnight respiratory diseases among children also show a decrease, the number of deaths being 14, compared with 33 deaths reported at last meeting. Thus there were in all 47 deaths from measles and supposed measles during the fortnight, compared with 96 recorded in the previous fortnight. These deaths were distributed as follows:—

Sunderland East...	4	Measles...	1	Respiratory	Diseases...	Total	5
,, West	7	,,	2	,,	,,	,,	9
Bishopwmth N. ...	8	,,	5	,,	,,	,,	13
,, S. ...	7	,,	4	,,	,,	,,	11
Monkwearmouth...	6	,,	2	,,	,,	,,	8
	32		14				46

These returns when compared with those of the preceding fortnight showed there had been a substantial decrease in every district except Sunderland Parish; and it may here be mentioned as a remarkable fact, that although this district is inhabited by the poorest portion of our inhabitants, although its condition is the least sanitary in the borough, although the people live for the greater part in tenements instead of cottages as in the other districts, and although, generally speaking, the habits and customs of the people are least conducive to good health, yet it was here that the epidemic made the least headway.

May 7th.

In the fortnight ending May 7th the Medical Officer was able to report as follows:—

"The deaths from measles show a considerable reduction; these now number 15 compared with 32 in the preceding returns.

"This diminishing mortality fully bears out the views I have frequently placed before this Committee, regarding the probable effect of warmer weather. It has been noticed by an authority on the subject that a measles epidemic beginning in winter rarely reaches its height until the vernal equinox* is passed, after which date it decreases. This has been exactly the case in Sunderland.

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*It is very remarkable that in the week ending March 21st, the epidemic of measles reached its height, the vernal equinox having occurred on the 20th of the month. In this week, measles caused no less than 50 deaths, and in the following week the mortality fell to 33, being a decrease of 17 deaths. A reference to the disease chart will show how rapidly the deaths from this disease fell after this date.

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Measles—Contd.

"The following were the deaths from measles registered in the districts in the fortnight, viz.:—

Sunderland East.........	3	Measles...	0	Respiratory diseases..	Total	3
,, West	3	,,	0	,,	,,	3
Bishopwearmouth North	0	,,	3	,,	,,	3
,, South	7	,,	6	,,	,,	13
Monkwearmouth	2	,,	2	,,	,,	4
	15	,,	11	,,	,,	26
Preceding report	32	,,	15	,,	,,	47

"Thus there is a reduction of 17 deaths from measles and of 4 deaths from respiratory diseases among children.

"The death rate produced by measles and respiratory diseases was 5·4, thus reducing the death rate from normal causes to 21·9

May 21st.

On the 21st May. the Medical Officer reported that :—

"Measles caused 10 deaths and respiratory diseases among children 12 deaths. These were distributed as follows :—

Sunderland East...	2	Measles ..	0	Respiratory	Diseases...	Total	2
,, West..	2	,,	2	,,	,,	,,	4
Bishopwmth. N. ...	1	,,	7	,,	,,	,,	8
,, S. ...	3	,,	2	,,	,,	,,	5
Monkwearmouth ...	2	,,	1	,,	,,	,,	3
	10		12				22

"In the preceding fortnight there were 15 deaths from measles and 11 from chest complaints among children. There is, therefore, a decrease of five deaths now registered from the former cause, and an increase of one death from the latter disease. Tracing the epidemic back the following deaths were reported from measles in preceding fortnights of this year :— 15, 32, 63, 95, 71, 47, 11, and 4. There were 13 new cases reported in addition to the deaths."

June 4th.

June 18th.

At the end of the next fortnight (June 4th) the deaths from measles fell to 7, which was the lowest number recorded since the beginning of the epidemic, and on June 18th the Medical Officer had to report that only two deaths had occurred since the previous meeting. This was the close of the epidemic.

During the remainder of the year eight isolated deaths occurred.

The annexed tables give the number of cases and the number of deaths, together with the ages of the persons attacked during the epidemic.

TABLE X. MEASLES CASES AND DEATHS, 1884-85.

WEEK ENDING.		Sunderland East.			Sunderland West.			Bishopwth. North.			Bishopwth. South.			Monkwearmouth.			Whole Borough.			Totals.
		Under 1	1 to 5	Over 5	Under 1	1 to 5	Over 5	Under 1	1 to 5	Over 5	Under 1	1 to 5	Over 5	Under 1	1 to 5	Over 5	Under 1	1 to 5	Over 5	
	1884.																			
November	22	...	...	...	...	...	...	...	3	1	..	...	...	...	...	1	...	3	2	5
,,	29	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	1	...	2
December	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	1
,,	13	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	1	1	1	3
,,	20	...	...	...	...	3	1	...	...	...	...	...	...	...	...	...	...	3	1	4
,,	27	...	...	...	...	...	...	...	1	1	...	...	...	1	1	1	1	2	2	5
	1885.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
January	3	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	1	...	2
,,	10	...	...	..	...	...	...	...	6	12	...	...	...	1	1	1	..	7	13	21
,,	17	...	...	...	...	...	...	...	...	...	...	1	2	1	2	...	...	3	2	6
,,	24	...	...	..	...	...	...	...	1	1	...	...	1	1	1	...	...	2	2	5
,,	31	...	...	...	...	...	...	2	7	6	...	1	...	...	1	...	2	9	6	17
February	7	...	...	...	...	...	...	1	9	8	...	6	7	1	8	21	2	23	36	61
,,	14	...	1	...	...	...	...	3	23	20	3	8	4	1	28	40	7	60	64	131
,,	21	1	4	1	..	2	..	4	39	27	2	18	32	3	26	16	10	89	76	175
,,	28	...	5	7	...	4	7	4	36	9	2	20	18	8	37	16	14	102	57	173
March	7	...	10	22	...	3	1	3	45	16	3	12	23	4	38	31	10	108	93	211
,,	14	1	1	1	...	1	...	4	21	12	1	7	4	7	19	24	13	49	41	103
,,	21	1	15	17	1	2	1	5	26	11	...	6	4	4	16	4	11	65	37	113
,,	28	1	8	10	2	6	2	1	9	6	2	15	4	2	7	5	8	45	27	80
April	4	1	10	9	5	15	5	...	9	...	...	6	...	1	6	3	7	46	17	70
,,	11	1	2	...	1	3	2	...	11	2	3	9	4	...	4	...	5	29	8	42
,,	18	...	3	...	1	3	...	...	1	...	...	7	...	1	2	...	2	16	...	18
,,	25	...	2	2	...	1	...	...	5	4	3	6	...	1	3	...	4	17	6	27
May	2	...	...	...	...	...	...	...	3	...	1	...	...	...	1	...	1	4	...	5
,,	9	1	6	2	...	1	...	...	...	...	...	...	...	...	...	...	1	7	2	10
,,	16	...	1	1	...	...	...	1	1	1	1	1	...	...	1	1	2	4	3	9
,,	23	...	1	1	..	1	...	...	...	...	...	3	1	...	2	...	...	7	2	9
,,	30	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2	...	2	2	4
June	6	...	1	...	...	...	..	...	...	...	...	1	...	...	...	...	...	2	...	2
,,	13	...	1	...	...	...	...	..	...	...	...	...	...	...	1	...	...	2	...	2
		7	71	73	10	45	19	28	256	137	23	130	104	38	207	168	106	709	501	1316

TABLE Y. MEASLES DEATHS, 1884-85.

WEEK ENDING.		Sunderland East.			Sunderland West.			Bishopwth. North.			Bishopwth. South.			Monkwearmouth.			Whole Borough.			Totals
		Under 1	1 to 5	Over 5	Under 1	1 to 5	Over 5	Under 1	1 to 5	Over 5	Under 1	1 to 5	Over 5	Under 1	1 to 5	Over 5	Under 1	1 to 5	Over 5	
	1884.																			
November	22	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	1
,,	29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	1
December	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
,,	13	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
,,	20	...	...	...	...	..	...	...	...	...	...	...	...	1	...	...	1	...	...	1
,,	27	...	..	...	...	...	...	1	...	...	...	...	...	...	...	1	1	...	1	2
	1885.																			
January	3	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	1	...	1	2
,,	10	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	2	...	2
,,	17	...	...	...	...	...	...	...	2	1	...	1	...	1	...	...	1	3	1	5
,,	24	...	...	...	...	...	...	1	3	1	...	...	...	...	1	...	1	4	1	6
,,	31	...	...	..	...	...	...	...	4	2	...	1	1	1	1	...	1	6	3	10
February	7	...	...	...	...	...	...	2	3	3	...	3	...	...	...	1	2	6	4	12
,,	14	1	...	...	...	...	...	1	7	...	1	3	1	1	6	...	4	16	1	21
,,	21	...	...	...	...	1	...	2	13	3	1	3	...	...	3	...	3	20	3	26
,,	28	...	2	...	...	...	...	3	16	1	2	2	...	1	2	...	6	22	1	29
March	7	1	1	...	...	1	...	2	25	2	2	1	...	1	6	...	6	34	2	42
,,	14	...	1	1	...	1	...	4	17	1	2	5	...	4	6	3	10	30	5	45
,,	21	1	...	1	1	2	1	4	12	1	1	8	3	3	10	2	10	32	8	50
,,	28	1	...	...	...	4	1	1	8	1	2	8	...	1	5	1	5	25	3	33
April	4	...	2	1	1	1	...	2	4	...	2	11	1	...	4	1	5	22	3	30
,,	11	...	2	...	1	1	...	...	1	1	...	5	...	...	2	...	1	11	1	13
,,	18	...	1	1	...	5	...	1	5	...	1	1	...	...	4	...	2	16	1	19
,,	25	...	2	...	...	2	...	...	...	...	...	6	...	...	1	...	...	11	...	11
May	2	...	1	...	...	1	...	...	...	...	1	...	...	...	1	...	1	3	...	4
,,	9	...	1	...	..	1	...	...	1	...	...	1	...	...	2	...	...	6	...	6
,,	16	...	...	1	...	1	...	...	...	...	1	...	1	...	...	...	1	1	2	4
,,	23	...	...	...	...	...	...	...	1	...	...	3	...	...	1	...	...	5	...	5
,,	30	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	2
June	6	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	2	...	2
,,	13	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
Totals		4	14	5	3	22	2	24	124	17	17	63	7	14	57	11	62	280	42	384

The following figures are a synopsis of these tables :—

Sunderland East...	151	known cases, out of which	23 died.
„ West...	74	„ „	27
Bishopwmth.N. ...	421	„ „	165
„ S. ..	257	„ „	87
Monkwearmoth ...	413	„ „	82
	1316		384

Thus of all known cases 29·1 per cent. died. In Sunderland East 15·2 per cent. died. In Sunderland West 36·4 per cent., in Bishopwearmouth North 39·1 per cent., in Bishopwearmouth South 33·8 per cent., and in Monkwearmouth 19·8 per cent. succumbed to the disease.

These are very high per centages of deaths, and when taken in conjunction with the many undoubted deaths attributed to, and registered under, bronchitis and pneumonia, are really alarming, It is true all cases were not reported, but so far as those coming under the cognizance of the Profession were concerned very few, if any, remained unnotified to the Medical Officer. On the other hand such a strong effort was made by the School Board officials to discover the cause of the absence of children from school, that it is the opinion of the Medical Officer that during the whole epidemic comparately few cases remained unreported that came to their knowledge.

The opinion of the Medical Officer of Health that very many of the cases of respiratory diseases were really measles has been combated in a very able *brochure* upon the epidemic of measles,* in which the writer states as his belief that "Children have succumbed to inflammatory attacks of the respiratory mucous membranes in consequence of the impoverished condition of their bodies, just as they have succumbed to what, under more favourable circumstances, would have been measles of an ordinary mild type." If this be so one may well ask, now that another winter—the hardest that Sunderland has experienced for some years—has passed, and with a population in a more distressed condition than in the preceding winter, how it is that there has been no increase from the normal in deaths arising from diseases of the respiratory tracts ? The Medical Officer's opinion is stronger than ever that not only was the disease of a very severe type, but that innumerable cases were suppressed in character and exhibited only pneumonic symptoms. Such an instance Dr. Drinkwater himself gives (case No. 163 in his book) ; he says "there could be hardly any doubt about it, seeing that it began exactly with another child of the same family, and presented all the prodromal stages of measles, but proved fatal before the rash developed. *Had this child suffered alone its death would have been attributed to pneumonia.*" The italics are the Medical Officer's.

Remarks on the epidemic of measles prevalent in Sunderland, by H. Drinkwater, M.D. Edinburgh: James Thinn.

Measles (Contd.)

Although Dr. Drinkwater was fortunate in being able to observe the early stage of the disease in this instance, yet in many cases he would not have had such an opportunity. In the majority of the cases of death arising from inflammatory diseases of the chest, it has been ascertained that the medical attendant had not been consulted until a stage had been reached in which it was impossible to recognize measles.

To discuss the features of this epidemic at length would take a long while and would cost a considerable amount of labour, in addition to which it would entail going over work which had been well done by Dr. Drinkwater in the treatise already referred to, and, therefore, the Medical Officer does not propose to do so. He has, however, given the figures of the epidemic very fully, and he trusts that these, with the assistance of the disease chart, will enable every one to understand its progress.

SCARLET FEVER.

It is not strange that Sunderland should be so constantly attacked by this disease when it is recollected it is the centre of a large pit district which has been for years subject to scarlet fever.

Mortality, 1875-84.

The deaths during the year 1875-84 were as follows :—

1875......	61	1880......	312
1876......	133	1881......	145
1877......	138	1882......	168
1878......	186	1883......	38
1879......	243	1884......	46

Total 10 years...1,470 deaths.

These deaths represent an average annual death-rate of 1·28 per 1000 of the inhabitants.

In Sunderland and Districts surrounding it.

The average death-rate for 10 years in the whole County of Durham is 1·38 per 1000, and the average rate for the union districts immediately surrounding Sunderland are :—

Durham Union	1·70
Easington Union	1·44
Houghton-le-Spring.........	1·31
Chester-le-street Union ...	1·25
South Shields Union	1·46
Gateshead Union	1·60

These union districts entirely enclose the union district of Sunderland, and between them and it there is a very close and direct intercourse. Sunderland is the great commercial centre of Durham, and its situation is pre-eminently healthy. Into it from most of the populous districts

Scarlet Fever (Contd.)

named there is a constant stream of the working classes ever flowing. Pit districts have never been noted for their good sanitary condition, and consequently they are never very free from infectious diseases. This is proved by the fact that the death-rates from such diseases as scarlet fever are in the pit districts of Durham more than double that of the purely agricultural areas.

Large populations are not of themselves essential to the spread of disease, for it is remarkable that the decennial mortality rate for London for scarlet fever is less than that for England and Wales, viz. 0·60, compared with 0·72 per 1000 inhabitants.

In adjoining counties.

The following figures represent the decennial mortality of the counties immediately adjoining Durham :—

Yorkshire	0·74	per 1000
Westmoreland	0·42	,,
Northumberland	1·15	,,
Cumberland	0·82	,,

Thus all the counties which adjoin Durham have a lesser rate, although in the case of Northumberland there is not much of which to boast. Its higher mortality is due, probably, to the populous districts in the neighbourhood of the Tyne. All of these are more or less in constant communication with Sunderland.

Such being the surroundings of Sunderland, it is only to be expected that this disease would be found plentifully distributed in the borough.

Cases in 1885.

In the year, 502 cases were reported at the Health Office, of which 297 were notified after Sept. 1st, at which date compulsory notification was first enforced. Out of the total cases there were 106 deaths, and since notification was made there were 30 deaths, so that 21·1 per cent. of all the known cases of scarlet fever died, whereas only 13·8 per cent. of the compulsorily notified cases died. On the supposition that the mortality rate was the same, before and after notification, and it is fair to assume so, then there would have existed in the borough 717 cases of scarlet fever, so that there were 512 centres of this fever of which the Health Authority were entirely ignorant. This fact speaks for itself as to the value of the compulsory notification of infectious diseases.

Mortality.

The cases and deaths in the borough were distributed as follows :—

Sunderland East	14	cases...	4	deaths...	= 28·5	per cent.
,, West	8	,,	1	,,	= 12·5	,,
Bishopwearmouth North	155	,,	23	,,	= 14·8	,,
,, South	176	,,	42	,,	= 23·8	,,
Monkwearmouth	149	,,	36	,,	= 24·1	,,
	502	,,	106	,,	= 21·1	,,

REPORT, 1885.

Scarlet Fever Contd.)

4th Quarter.

These figures express the proportion of deaths to reported cases in the districts for the whole year. It will be instructive to note how different the figures are in the 4th quarter, during which compulsory notification existed.

	Cases	Deaths.	Per centage of deaths to cases.
Sunderland East	8	0	0.0
„ West	4	1	25·0
Bishopwearmouth North	99	5	5·0
„ South	84	10	11·0
Monkwearmouth	34	3	8·8
Total	229	19	8·2

The ordinary mortality, noted in hospitals, among scarlet scarlet fever cases is from 8 to 25 per cent., so that the mortality in Sunderland may be considered fairly satisfactory. It is certainly remarkable, that with the exception of Sunderland West District, in which there was only one death and 4 cases, numbers too small to take much notice of, the highest mortality rate was in Bishopwearmouth South, a district which, compared to others, possesses many sanitary advantages, and a wealthier population. Much of it is newly built ; and it has the advantage of lying near the sea. A glance at the map shows that the cases were not confined to the poorer parts, but that they also occurred in some of the more well-to-do districts. The streets, together with the number of cases known to have occurred in them, are given in Table VIII. in appendix.

Sickness Rates.

The notification of the principal infectious diseases makes it possible to give a sickness rate for the first time. This will be useful not only for comparing one year with another, but also one district of the borough with another. As the cases for the fourth quarter were notified by the profession the following figures will denote the sickness rate per 1000 inhabitants in each district :—

Sunderland East	3·24	cases per 1000 inhabitants
„ West	2·52	„ „
Bishopwearmouth North	10·21	„ „
„ South	7·96	„ „
Monkwearmouth	4·84	„ „
	7·31	

In the two districts, therefore, of Bishopwearmouth North and South, scarlet fever seems to have taken greatest hold. So far as the sanitary condition is concerned these are far superior to the Sunderland districts, so that to insanitary conditions can not be attributed the presence of the disease. Indeed, during the whole year very few cases were known in Sunderland Parish, whereas it was more or less present in the Bishopwearmouths. The exact number of cases known in each district in each quarter have been given in the table on page 21.

DIPHTHERIA.

The deaths from this disease were slightly above the average of the preceding 10 years, namely—12, compared with 11·6, a difference so trifling as not to be worthy of particular remark.

The origin of these cases was closely enquired into, and it must be admitted with no satisfactory results. One fact, however, came out clearly that defective drainage was not the originating cause of the disease.

Mortality.

The deaths occurred in the following districts :—

Sunderland West	1
Bishopwearmouth North	4
,, South	2
Monkwearmouth	5
	12

Cases.

The actual number of cases reported during the fourth quarter, the only one in which compulsory notification was in force, was 16 ; the sickness rate from diphtheria was therefore 0·51 per 1000 inhabitants during that quarter.

In the same period there were four deaths so that 25 per cent. of the cases were fatal.

WHOOPING COUGH.

Decrease of.

Whooping cough shewed a most gratifying decrease, for, whereas the annual average number of deaths for 10 years had been 80·4, yet the actual number of deaths in 1885 was only 32. In the preceeding year there were 95 deaths.

The deaths were distributed as follows :—

Sunderland East	4
,, West	1
Bishopwearmouth North	5
,, South	10
Monkwearmouth	12
	32

In addition to these deaths only one case was reported to the Medical Officer.

It will be remarked that Monkwearmouth had the largest number of deaths. For some reason which it is impossible to explain this district always holds the worst position as regards whooping cough. It is not one of the infectious diseases to be reported by the medical practitioners.

TYPHUS FEVER.

Typhus Fever.

There were 16 deaths from this disease during the year. In the preceding ten years the annual average had been 20, and in 1884, 11. The increase on the 1884 returns had been expected, for at the end of that year typhus fever existed in the borough, and great distress prevailed; many of the people were ill clothed and ill fed and nearly all the conditions which conduce to the spread of this disease were present. In no recent year was there so much reason to fear its assuming alarming dimensions. Happily the cases were quickly reported by the medical men in attendance, and the patients were in the greater number of cases removed to the hospital. As in the preceding year, it was again noticed that the disease travelled from one member of a family to another, so that in the greater number of instances it was possible to trace out the origin of the cases. Thus, the notes taken of the various cases show that the fever was caught from a mother, a sister, a brother, a neighbour, or some individual who was named.

The sickness rates arising from typhus fever in the fourth quarter of the year were as follows:—

Sunderland East	2 cases...	= 0·81	per 1000
„ West	10	= 6·30	„
Bishopwearmouth North	4 „	= 0·41	„
„ South	11 „	= 2·60	„
Monkwearmouth	2 „	= 0·28	„
Whole Borough	29 „	= 0·92	„

Three of these died, so that the mortality was 10·3 per cent. of the cases reported. Table T on page 21 gives the known cases and deaths in each district and in each quarter.

It is satisfactory to note that this disease has shown a tendency to decrease, and it is hoped that with speedy notification, and efficient isolation in a suitable hospital, the disease may be still further checked. The want of a suitable place for isolation of this disease was much felt. In all, 74 cases came to the knowledge of the Health Department, of which 47 were treated in the Union Hospital.

The 16 deaths, including those who died in the Union Hospital, were referred to the districts as follows:—Sunderland East, 4; Bishopwearmouth North, 6; Bishopwearmouth South, 4; and Monkwearmouth, 2 deaths.

The greatest number of deaths, 7, occurred in the third quarter; 3 occurred in each of the others.

ENTERIC FEVER.

Enteric Fever.

Only 16 deaths were attributed to typhoid or enteric fever, which was 12 below the annual average for the 10 preceding years. There is, however, an increase of 5 deaths on the year 1884.

Enteric Fever (Contd.)

Altogether, 45 cases of the disease were known, and these, together with the deaths, occurred in the following districts:—

Sunderland East	10 cases	1 death
„ West	4 „	1 „
Bishopwearmouth North	15 „	6 „
„ South	15 „	5 „
Monkwearmouth	17 „	3 „
	61	16

In the fourth quarter, 21 cases were compulsorily notified, so that the sickness rate was 0·67 per 1000 inhabitants. In the same period there was only one death, consequently the mortality was 4·7 per cent. of the cases notified.

CONSTITUTIONAL DISEASES.

Constitutional Diseases.

There were 392 deaths registered in this class of diseases. This return compares favourably with the years 1883 and 1884, when the numbers were respectively 410 and 425.

Phthisis, Mortality from.

Pulmonary consumption is the chief item of mortality, and it caused as many as 212 deaths. This number is, however, less than those for the years 1882, 1883 and 1884.

In the following Table is exhibited the mortality from this disease since 1873. It also exhibits the percentage of deaths to the total deaths in each year, and also the rate per 1000 of the population.

TABLE Z.

Years.	Mortality.	Percentage of Total Mortality.	Death Rate per 1000 of the Population.
1885.	**212**	**7·1**	**1·6**
1873	212	9·0	2·0
1874	185	7·5	1·7
1875	177	7·4	1·6
1876	221	9.7	2·0
1877	212	8·5	1·9
1878	211	7·2	1·9
1879	219	8·7	1·9
1880	224	7·7	1·9
1881	188	7·7	1·6
1882	247	7·8	2·0
1883	236	7·9	1·9
1884	227	7·8	1·8

Phthisis (Contd.)

When, therefore, the mortality from phthisis, now recorded, is compared with any of the years since 1873 it appears in a favourable light: it is below the average rate for these years. Only twice has it been so low, namely, in 1875 and in 1881, in which years the rate was 1·6 per 1000 of the inhabitants, or exactly the same as that now recorded.

The mortality rate from phthisis contrasts favourably with that for other districts. In the County of Durham, as a whole, the average rate for ten years is 1·93; in Northumberland it is 2·27; and the average rate for England and Wales is 2·12 per 1000 inhabitants.

The deaths in the four divisions of the year occurred as follows:—

First quarter 63 deaths = 2·1 death-rate per 1000.
Second „ 51 „ = 1·6 „
Third „ 57 „ = 1·8 „
Fourth „ 41 „ = 1·3 „

Total......212 = 1·6 „ „

In the districts.

In the following table the mortality and mortality rates, in the districts are exhibited, together with those of the preceding three years:—

TABLE A[1].

Districts.	Deaths.				Death-rates per 1000 Inhabitants.			
	1882	1883	1884	**1885**	1882	1883	1884	**1885**
Sunderland East ...	12	16	20	7	1·26	1·65	2·02	0·71
Sunderland West ...	11	15	11	9	1·79	2·34	1·73	1·41
Bishopwth. North...	108	99	93	85	3·00	2·64	2·56	2·19
Bishopwth. South...	62	62	55	64	1·55	1·52	1·33	1·51
Monkwearmouth ...	54	44	48	47	2·02	1·61	1·73	1·67
Borough	247	236	227	212	2·07	1·95	1·84	1·69

The death-rates in Sunderland East and West are usually low, while that of Bishopwearmouth North is generally high, owing to the deaths of persons, of whom many come in a destitute condition for treatment in the Union Infirmary from the former districts.

It is noteworthy that in the district of Monkwearmouth in which so many pitmen reside, the death-rate from the disease is particularly low, more especially when taking into consideration the fact that the residents, apart from the miners, are for the most part artizans or seamen.

Phthisis
(Contd.)

The following is a list of the occupations of persons over 20 years of age who died from pulmonary consumption. Numbers under 3 are omitted.

Blacksmiths	3	Labourers	10
Cartmen	3	Miners	3
Joiners	6	Seamen	5
Shoemakers	6		

For other occupations *vide* Table VII. (appendix).

Considering the large number of pitmen employed within the borough, and considering also that the Infirmary receives patients from the whole Union district and its neighbourhood, in which are employed very many thousand pitmen, it is, to say the least of it, very remarkable, that so few miners die from phthisis. It may be interesting to note that whereas in England and Wales, out of every 1000 deaths between 25 and 65 years of age, 225 arise from phthisis, yet among the miners of Durham and Northumberland, out of the same number of deaths during the same period of life, only 135 die. It is also strange that the mortality of miners from all causes is less than the mortality among all other males. This is especially notable when it is recollected that they are exposed to so many accidents, to sudden changes of atmosphere, to air charged with coal dust, and to foul air, besides many other apparently injurious surroundings peculiar to pit life.

Cancer.

Deaths from cancer are exactly the same as those registered in 1884, viz.: 51, and four less than in 1883. The death-rate for the year was 0·40. This rate is somewhat above that of the County of Durham, in which it averages 0·33 per 1000 inhabitants; and slightly below the mortality rate of England and Wales, in which the average mortality is 0·47.

The deaths were registered in the districts thus: Sunderland Parish 5, Bishopwearmouth North 13, Bishopwearmouth South 18, Monkwearmouth 15.

Tabes
Mesenterica.

Tabes mesenterica, sometimes called "consumption of the bowels," was less fatal than usual, causing only 23 deaths. These occurred among children, to whom it is at times very fatal. In the preceding year 40 deaths were registered, although in 1883 the mortality was as low as 22. In 1882, on the other hand, the figure was 42, while in 1881 it was only 23. Thus the mortality seems to increase and decrease alternately. The disease fluctuates apparently with the rise and fall of diarrhœa. At all events it has done so during the last five years;

	1881	1882	1883	1884	1885
Diarrhœa	89	125	83	150	81
Tabes Mesenterica	23	42	22	40	23

Considering the nature and character of tabes mesenterica it is hardly to be wondered at, that a year in which diarrhœa is prevalent should also be noted for deaths from the former disease.

LOCAL DISEASES.

Local Diseases, Decrease of.

There was a slight decrease in the returns on the three preceding years. Thus the figures were:—

1882	... 1,399 Deaths	= 11·6 death-rate.	
1883	... 1,433 „	= 11·8	„
1884	... 1,391 „	= 11·2	„
1885	... **1,356** „	= **10·8**	„

Mortality in quarters compared.

The deaths in the quarters, compared with the corresponding quarters of 1884, were as follows:—

	1884.		**1885.**
1st Quarter	342	...	406
2nd „	334	...	316
3rd „	297	...	309
4th „	418	...	325
	1,391		1,356

It will be noticed that in every quarter, except the first, the deaths were less in 1885 than in 1884. This is accounted for by the fact that respiratory diseases carried off a large number of children in the earliest quarter.

Among the various classes of diseases in this division none, with the exception of diseases of the Respiratory System, requires special mention.

Respiratory Diseases.

Deaths from diseases of the Respiratory System numbered 572, which is an increase of 40 on the number of deaths registered in 1884.

The principal increase occurred in the first two quarters of the year, when Measles was epidemic. The numbers registered were 206 in the 1st quarter and 133 in the 2nd quarter, compared with 134 and 113 in the corresponding quarters of 1884. On the other hand, after the decline of the Measles, there was a very considerable falling off, compared with the corresponding quarters in the preceding year, in the deaths. Thus in the 3rd quarter 97 deaths were registered, and in the 4th quarter 136, compared with 113 and 172 in the same quarters of 1884. These figures are better seen when placed thus:—

	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Totals.
1884..	134	...	113	...	113	...	117	=	532
1885...	206	...	133	...	97	...	136	=	572

Here it is seen that in the 1st and 2nd quarters there was an increase of 82 deaths over the corresponding quarters of the preceding year, while in the 3rd and 4th quarters there was a decrease of 52 compared with the same quarters of 1884. The nett result is a decrease of 40 deaths on the preceding year.

Respiratory Diseases. (Contd.)

It is believed by the Medical Officer that nearly all this increase was due to deaths which should have, properly, been ascribed to Measles.

Measles is a disease which principally attacks young children. Nearly all the cases which came under the notice of the Medical Officer of Health were below 5 years old. Now, it is a remarkable fact that the increase in the number of deaths from Respiratory diseases occurred among children under that age. During the epidemic 187 children died at this period of life, compared with 114 for the corresponding months of 1884. This gives an increase of 73 deaths, whereas the increase at all periods of life over 5 showed an increase of only 22 deaths. This increase, strangely enough, occurred among persons of youthful age, and who, consequently, would be more liable to be attacked with Measles. It would have been interesting to note the connection between Measles and Respiratory diseases in the previous epidemics in Sunderland, but, unfortunately, the statistics are not available.

INFANTILE MORTALITY.

Infantile Mortality, Decrease in.

There is a diminution in the deaths among children under twelve months old. In 1884 the number registered was 892, while this year it has fallen to 740, being a decrease of 152.

The distribution of deaths during the four quarters was very unequal. In the first quarter there were 225 deaths, in the 2nd 178, in the 3rd 192, and in the 4th 145.

Mortality in the quarters compared.

The ratios per 1,000 infants born in each quarter were as follows:—

1st Quarter	181	per 1,000 Infants born.
2nd "	141	" "
3rd "	169	" "
4th "	134	" "
Whole year	156	" "

The births for each quarter are given in table IX. (appendix)

Deaths from Measles and Respiratory diseases are chiefly accountable for the heavy rate in the 1st quarter. The rate for the whole year, however, is just below the average for the 10 years preceding, in which it was 157 per 1,000 Infants born. It is, also, 11 per 1,000 less than the infantile mortality rate of the preceding year.

The deaths of children under 1 year per 1,000 of deaths registered fell from 308 in 1884 to 245 in 1885, which is a substantial decrease.

Infantile Mortality. (Contd.)

It is gratifying to note that, after making allowance for the increase of population, the number of deaths for the year is less, by 63, than the average number for 10 years. The numbers are:—1885, 740; 1875-1884, 813. The figures for each year year (1875-1885) are given in the appendix (Tables I. and II).

SUMMER DIARRHŒA.

Decrease of Mortality from Diarrhœa.

The deaths from Diarrhœa were fully 50 per cent. less than in the preceding year, the number being 58 compared with 118. It is also 26 less than the average number of the preceding 10 years.

The march of the Diarrhœa did not assume its usual characteristic of gradually advancing in severity until it reached its highest point in the 9th week of the quarter and the 35th week of the year. On the contrary, it began rather severely, and reached its height with 13 deaths in the 5th week of the quarter (31st of the year) and then gradually subsided.

The annual deaths from Diarrhœa in the 3rd quarter are given week for week for 1885, and for 10 years preceding, in the following table, from which it will be possible to mark the progress of the Diarrhœa.

TABLE B^1.

Weeks of Year.	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	Annual Average for Corresponding Week.	1885
27th Week	1	2	5	2	0	3	1	1	2	2	1·9	3
28th ,, ...	2	6	0	5	0	3	1	2	3	0	2·2	3
29th ,, ...	2	6	0	5	1	2	10	7	2	5	4 0	5
30th ,, ...	2	15	3	7	2	5	11	13	6	4	6·8	7
31st ,, ...	3	11	3	15	1	3	13	14	2	8	7·3	13
32nd ,, ...	5	11	3	22	4	10	4	14	5	7	8·5	8
33rd ,, ...	8	10	5	19	1	15	7	11	6	7	8·9	4
34th ,, ...	11	12	6	19	3	16	5	17	3	13	10·5	3
35th ,, ...	12	18	7	19	4	27	1	6	3	13	11·0	3
36th ,, ...	8	7	11	10	5	24	2	9	9	19	10·4	0
37th ,, ...	8	5	5	14	2	16	4	5	4	19	8 2	2
38th ,, ...	16	3	5	13	2	22	2	3	6	12	8·4	2
39th ,, ...	8	4	2	3	6	8	1	4	3	9	4·8	5
Annual Totals	86	110	55	153	31	154	62	106	54	118	92·9	58

Summer Diarrhœa (Contd.)

The mortality from Diarrhœa, and the atmospherical conditions, are given as usual in the following table.

TABLE C¹.

Week of Year 1885.	Number of Deaths.	Aged 3 Months and under.	Aged 3 Months to 6 Months.	Aged 6 Months to 12 Months.	Aged 1 to 5 Years.	5 Years and upwards.	Maximum Temperature of the Air.	Mean Temperature of the Air.	Daily Range of Temperature.	Rainfall in inches.
							F.	F	F	
27th Week	3	1	1	..	..	1	80·0	63·2	21·0	0·27
28th ,, ...	3	..	1	1	1	..	65·0	55·2	13·8	0·72
29th ,, ...	5	1	1	..	3	..	80·0	60·0	13·0	0·18
30th ,, ...	7	1	..	2	2	2	69·0	57·2	9·2	0·21
31st ,, ...	13	3	1	7	1	1	63·0	55·4	8·8	2·81
32nd ,, ...	8	2	1	3	1	1	68·0	55·2	15·2	0·28
33rd ,, ...	4	1	1	1	1	..	75·0	56·2	11·0	0·15
34th ,, ...	3	1	..	..	1	1	62·0	54·0	6·8	0·00
35th ,, ...	3	1	..	2	..	..	68·0	53·0	15·8	0·50
36th ,, ...	..	..	..	..	..	..	64·0	54·0	12·0	0·59
37th ,, ...	2	..	..	..	2	..	70·0	55·3	14·2	0·45
38th ,, ...	2	..	..	..	2	..	62·0	49·3	11·0	0·62
39th ,, ...	5	..	1	1	2	1	58·0	48·4	11·7	0·40
Total Deaths and Meteorological Averages.	58	11	7	17	16	7	68·0	55·1	12·5	0·55

REPORT, 1885.

Summer Diarrhœa (Contd.)

The following table gives the Atmospherical conditions for 10 years.

TABLE D[1]

Years.	Mean Temperature of Air.	Daily Range of Temperature.	Rainfall in inches.	Deaths under 5 years of age.	Total Deaths.
	Deg. F.	Deg. F.			
1885.	55·10	12·5	7·18	51	58
1875	61·06	17·5	10·24	70	88
1876	60·05	26·2	7·78	86	109
1877	58·40	12·5	9·76	49	62
1878	62·00	14·4	6·43	140	156
1879	58·00	14·2	8·20	28	32
1880	61·50	13·7	9·28	146	154
1881	58·00	16·0	12·32	77	90
1882	59·60	20·4	9·06	97	106
1883	59·00	16·5	11·06	48	54
1884	57·70	11·7	4·81	112	117
Averages, 1875-84.	59·43	16·3	8·89	85	96

In a future Report the Medical Officer hopes to be able to draw attention to the Atmospheric conditions in relation to infantile diarrhœa in the 3rd quarter of the year.

ACTION TAKEN DURING THE YEAR TO PREVENT THE SPREAD OF INFECTIOUS DISEASES.

Prevention of disease.

Compared with the two years immediately preceding there were fewer patients removed to Hospital. The figures for six years are exhibited in the following table:—

Treatment of Hospital.

	1880.	1881.	1882.	1883.	1884.	**1885**
Smallpox	1	2	3	216	336	105
Measles	6	2	7	0	0	8
Scarlet Fever	40	31	9	6	11	9
Diphtheria	0	0	1	0	1	0
Typhus Fever	19	6	92	49	30	46
Enteric & Continued Fever		14	30	22	7	15
Erysipelas	1	2	1	0	0	0
Totals	67	57	143	293	385	183

The falling off is owing to the decrease in the number of cases of Smallpox reported. If, however, this disease is excluded it will be found that there were more cases treated in Hospital than in the preceding 5 years.

For the greater part of the year the House of Recovery was occupied by Smallpox patients, and was, therefore, unable to receive patients suffering from any other Infectious disease. Only one case was sent to the Union Hospital, while 104 were treated in the Corporation Hospital. It was principally because the Corporation were unable to undertake the treatment of Infectious diseases, other than Smallpox, that so few persons were treated in Hospital. It is only in very exceptional cases that the friends of patients, or the patients themselves, will consent to treatment in pauper hospitals. The want of a suitable Hospital has been severely felt, and it is hoped that before a year passes Sunderland will possess an Institution in every way creditable to the borough.

There were 2,226 cases of Zymotic diseases notified to the Medical Officer, of which 1,310 were Measles. The following table gives a view of the cases reported to the Medical Officer during the preceding 5 years and in 1885.

	1880.	1881.	1882.	1883.	1884.	**1885**
Smallpox	1	4	7	379	805	126
Typhus Fever	21	11	174	53	41	74
Enteric Fever	35	53		71	34	62
Simple Continued Fever	16	5	0	10	7	9
Scarlet Fever	792	459	435	121	121	502
Measles	279	8	820	34	21	1310
Diarrhœa	198	85	138	127	150	82
Whooping Cough	138	68	158	22	138	34
Diphtheria	6	11	21	20	13	27
Puerperal Fever	9	11	6	2	3	13
Totals	1495	715	1659	839	1333	2239

Prevention of disease. Precaution against Smallpox.

Comparatively little difficulty was experienced in obtaining the consent of persons suffering from Smallpox to enter Hospital. This was partly owing to the fact that the patients were not compelled to go to the Union Hospital, and partly because the friends and Medical Attendants generally assisted the Medical Officer, the latter especially so.

As in previous years, the precautions advised in 1883 and in 1884 were continued, and vaccination and re-vaccination were strongly insisted on.

Against Measles.

The precautions adopted against the spread of Measles have been to some small extent already alluded to in the preceding part of this Report.

Circular to Medical Profession.

The following Circular was sent to every Medical Man in the borough on January 29th:—

"HEALTH OFFICES,

SUNDERLAND, JANUARY 29TH, 1885.

DEAR SIR,

MEASLES.

This Disease is, as you are doubtless aware, not only very prevalent, but also very fatal in the Borough. I am, therefore, anxious to prevent its spread. In the case of this Zymotic I do not expect to accomplish so much in this direction in the houses which it has already invaded, as I hope to do in retarding its outside progress, by hindering children (whose homes are infected) from attending Day or Sunday Schools, or in any other way mixing with healthy children.

To accomplish this it is very necessary I should be made aware of its existence, so that instructions may be given to the parents and the school teachers ; and I have, therefore, to ask you, in the general interest of the community, to afford me every possible information.

Thanking you for many past kindnesses, and also, in anticipation, for your future assistance.

I am, dear Sir,

Yours very truly.

ALFRED E. HARRIS,

MEDICAL OFFICER OF HEALTH."

This Circular met with an immediate and hearty response ; and at once cases were reported from all parts of the borough. The information given proved of the greatest service, as it enabled the Sanitary Authority to forward lists of all cases that occurred to the various school teachers in Sunderland, who were requested to exclude all scholars attending school from infected homes for periods varying from four to six weeks.

The following letter was also forwarded to the School Board:—

Prevention of Disease.

Advise to the School Board.

"HEALTH OFFICES,
SUNDERLAND, FEBRUARY 16TH, 1885.

TO THE CHAIRMAN AND MEMBERS OF THE SCHOOL BOARD.

Gentlemen,

I am desired by the Health Committee to draw your attention to the fact that at the present time Measles is epidemic in the borough, and also that Scarlet Fever is more than usually prevalent. As it is well known that large schools are frequently the means of spreading infectious diseases the Committee are anxious that all due precaution should be taken.

On consideration of the matter they have thought it necessary to advise that you will give directions that—

1st.—All Scholars in whose homes or houses infectious disease has appeared shall be excluded from attendance at School.

2nd.—That the Schools shall be daily flushed with pure air between the School hours by opening the windows and doors to their fullest extent.

3rd.—That all Desks, Forms, &c., shall be systematically cleansed at least once a-week ; and

4th.—That the Schools shall be fumigated with Sulphurous Acid every Saturday.

I am also directed to call your attention to the contents of my letter* of the 11th inst. to the Secretary of your Board, and to ask that it shall receive your kind consideration.

I am to add that the Health Committee have deemed it more desirable to request you to carry out the above precautions than to exercise the powers conferred on them under Art. 98—Code of Regulations of 1882—of closing all, or any, Schools in their district.

I am, Gentlemen,
Your obedient Servant,
ALFRED E HARRIS,
Medical Officer of Health."

A Large Poster and a Hand-Bill, of which the following is a copy, was also very extensively distributed:—

Handbills.

"BOROUGH OF SUNDERLAND.

Caution to Parents and Guardians.

MEASLES

Having made its appearance in the Borough, and having already caused death in many instances, it is much to be feared that it may become epidemic among children, to whom it was fatal two years ago.

It is, therefore, earnestly requested that parents and guardians will, when the disease exists in their houses, refrain from sending Children to School. By so doing, the Health Authorities will be greatly assisted in their endeavours to stamp out the disease, and the closing of the Schools will be avoided.

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*This letter had reference to the evil practice of sending scholars to enquire for absentees, who were often suffering from an infectious disease.

Prevention of Disease.

Children should not be allowed to visit houses wherein Measles is known to be present.

Parents and Guardians are also strongly advised to obtain Medical Advice so soon as their Children are attacked, for thereby they may ward off the after complications of the disease, which are so fatal.

The Public are requested to report to the Medical Officer of Health all cases of which they obtain knowledge.

Disinfectants will be supplied to persons unable to purchase them.

By order,

ALFRED E. HARRIS,

Medical Officer of Health."

Health Office, 17, East Cross Street,
February 10th, 1885.

Circular to School Teachers.

All the Teachers of Schools in Sunderland were communicated with, and the following precautions were advised:—

"PROTECTION AGAINST INFECTIOUS DISEASE.

To Proprietors of Schools, School Managers, and Teachers.

As there is every reason to believe that Measles (which is at present epidemic in the Borough), Scarlet Fever, and other Infectious Diseases are spread to a considerable extent by means of Schools, the Health Committee are of opinion that it is imperatively necessary that Proprietors, School Managers, and Teachers should take every precaution against such Diseases being introduced into their Schools, and with a view of assisting them in that direction I have been desired to make such *recommendations* as might seem advisable for effecting that object, and beg to submit the following—

1. That at the present time all children suffering from a running at the eyes and nose, and showing symptoms of a cold, should be at once excluded from the School. These are among the first symptoms of Measles, which disease is highly infectious, even in its earliest stages.

2. That it should be one of the requirements from parents of scholars that they should give notice to the Head Master or Mistress immediately on their becoming aware of the fact that Infectious Disease of any kind is in their houses.

3. That on receipt of such notice the Master or Mistress should give information thereof to the Medical Officer of Health.

4. That when any child is absent from School on the plea of illness, a letter from the parents or a certificate from a Medical Man should be required, stating the name of such illness.

5. That a child who has suffered from Infectious Disease of any kind should not be allowed to re-enter the School without producing a certificate from a Medical Man, stating that he or she can do so without danger of infecting others.

6. That children should not be allowed to attend School from a house in which Infectious Disease is known to exist, as, although not ill themselves, they are very likely to carry the infection to others, and to spread the disease.

7. During the hours in which a School-room is not occupied the doors and windows should be opened as widely as possible, so that the room may be thoroughly ventilated. It is desirable that in all School-rooms there should be means for cross ventilation.

Prevention of disease.

8. During the Winter months School-rooms should always be kept warm and comfortable by means of open fires or stoves. It is a false notion to suppose that a number of children in a room is sufficient to keep it warm; no doubt the temperature will be raised, but this is done by the extraction of the heat from the bodies of the children, which cannot but be injurious to their health, whereas an open fire, whilst heating a room and keeping the children warm, also acts very efficiently as a means of ventilation.

9. Cleanliness amongst the scholars should be especially insisted upon, both as regards their clothes and persons. The greater the cleanliness of a School and of the scholars attending it, the less likelihood there will be of Infectious Disease spreading, should it by any chance be introduced therein.

10. The School-room floors, desks, and forms should be thoroughly cleansed with soap and water, mixed with Sanitas or other disinfectants, and the walls brushed down at least once a week; and at the end of each week the rooms should be disinfected with the fumes of burning Sulphur.

ALFRED E. HARRIS,
Medical Officer of Health."

Health Office, Sunderland, February 16th, 1885.

Sunday Schools.

This Circular had a very excellent effect, and caused the teachers to manifest a very great interest in the welfare of their scholars. The Clergymen in the town and the Superintendents of Sunday Schools were also communicated with, and requested to exclude therefrom, as far as possible, all cases of infected houses.

When Information was received of any cases steps were at once taken by the Health Officials to warn parents and guardians against sending their children to school from the house in which the disease existed until they had received the permission of the Medical Man in attendance on the patients or of the Medical Officer of Health. In this way much good was accomplished; and it is believed much of the severity of the epidemic was kept within smaller bounds.

Assistance from School Board Officials.

Special thanks must be given to the Board School Officers for the praiseworthy manner in which they afforded information, and to their courteous Secretary, Mr. Bryers, for the care with which he carried out the many requests of the Health Committee and of the MedicalOfficer.

Disinfection and Fumigation.

Disinfection of houses by fumigation was freely resorted to, and few (if any) of the houses in which Measles occurred escaped the process. In all, 840 houses were treated. This number may appear small when compared with the total number of cases of Measles, but when it is recollected that there were generally 2 cases per house attacked the number will not appear so small.

Cholera.

Owing to the continuance of Cholera in the South of Europe the Medical Officer deemed it advisable to continue the precautions adopted in previous years.

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Prevention of Disease.

Disinfectants were freely applied to the street gratings, and to all places where foul matter accumulated. The Ash-pits and Ash-closets were freely limed, and all the narrow courts were systematically cleansed with water. Additional efforts were made to keep the Ash-pits free from large accumulations of offensive matter, and the sewers were more frequently flushed.

Water supply.

Greater attention than usual was taken by the Inspectors of Nuisance to compel owners of property to keep a good supply of water for their tenants, many of whom, it is regrettable to notice, do not use the water fittings with care when they have been supplied.

The following poster and hand-bill was largely circulated—

"BOROUGH OF SUNDERLAND.

CHOLERA PRECAUTIONS.

TAKE CARE

I. That all discharges from the bowels which are diarrhœal are immediately disinfected and dealt with in such a manner that they can not contaminate the water supply.

II. That all infected bedding, clothing, towels, &c., are thoroughly disinfected or destroyed, and not sent to the wash in an infected state.

III. That no unhealthy conditions, such as uncleanliness, the collection of filthy matter, dirty water, or the retention of excrement, are allowed to exist.

AVOID

I. The use of drinking water which is contaminated or even in the slightest degree tainted by sewer gas, house refuse, or other like kinds of filth, arising, for instance: by outflow, leakage, or filtration from sewers, house drains, privies, cesspools, or the like, to the water supply.

II. The breathing of air foul with effluvia from similar impurities.

III. The eating of unripe or unsound fruit and vegetables.

PRECAUTIONS.

I. Take care that no water used for any household purposes is stored in any tank or vessel which has any communication, directly or indirectly, with the drains, or has been kept in unclean vessels. All cisterns should be cleaned, and any connection of waste pipes with drains should be severed.

II. Where pollution is discovered everything practical should be done to prevent the pollution, and until that object is attained, the water should not be drunk, or used for any other purpose.

III. There should be at once a thorough removal of all kinds of house refuse and other filth which has accumulated in neglected places. Future accumulations of filth should be prevented.

IV. *All vegetable refuse should be burned, and not thrown into the ash-pit.*

V. Attention should be given to all defects of house drains and sinks through which offensive smells are let into a house. All soil pipes should be ventilated.

Prevention of Disease.

VI. Thorough and constant washing and lime whiting of unclean premises, especially such as are densely occupied, should be practised.

VII. Disinfection should be freely and very frequently employed in, round, and about the houses, wherever there are receptacles or conduits of filth, and wherever there is filth, sodden earth, or anything else tending to make the atmosphere foul.

The duty of observing the above precautions is one which ought never to be neglected by any person.

But the main object must be to insure such sanitary conditions that choleraic contagion, even without disinfection, can not gain even a footing in the borough.

DO NOT NEGLECT DIARRHŒA.

The best disinfectants are Carbolic Acid, Chloride of Lime, Gibbs' Carbolated Creosote, Jeyes' Disinfectants, McDougall's Powder, and Sanitas, which can be procured at nearly all chemists.

By order,
ALFRED E. HARRIS,
Medical Officer of Health."

Health Offices, 17, *East Cross Street*,
August 14*th*, 1885.

Bad Fish, &c.

Posters and hand-bills were also largely distributed cautioning trades-people and hawkers against selling unwholesome fish, fruit, and vegetables.

THE BOROUGH OF SUNDERLAND ACT, 1885.

Prevention of Disease.

Perhaps the most important measure adopted by the Corporation to prevent the spread of infectious or other diseases was the promotion in Parliament of the Bill which became law under the above title.

Under this Act, in future—

1. Medical Men attending on patients suffering from an infectious disease, viz. :—Smallpox, Cholera, Typhus, Typhoid, Scarlet, Relapsing, Continued, and Puerperal Fevers and Diphtheria, will be compelled to notify the disease to the Medical Officer of Health ; and the person in charge, or the head of the family, will also be compelled to report it.
2. Cow keepers. and purveyors of milk generally, will be compelled, in certain cases, to furnish lists of their customers.
3. Persons engaged in washing or mangling clothes will have to furnish lists of the owners of clothes in certain cases.
4. Further powers will be enforced in relation to the disinfection of premises which will enable the Corporation to do the work themselves at their own cost, if they think fit.

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Prevention of Disease.

5. There will be a penalty of ten pounds inflictable on persons ceasing to occupy houses in which Fever has occurred without previous disinfection or without giving notice to the owner, or making false answers to persons negotiating for the house, if there has been infectious disease in such house within six weeks.

6. It will be impossible to retain unburied the dead body of any person who has died of an infectious disease (except in a mortuary) for more than forty-eight hours.

7. Bodies of persons dying in Hospital from an infectious disease can only be removed for burial.

8· The deaths of persons from an infectious disease must be notified to the Medical Officer of Health by the person or persons in occupation of the house in which the patient died.

9. Mourning Coaches shall be subject to the provisions relating to Hackney Carriages of Section 37, 39-45, and 68-71 of the Towns Police Clauses Act, 1847.

10. Corpses of persons dying from infectious diseases can not be carried in public conveyances without previous notification to the owner or driver.

11. The Corporation will be enabled in times of epidemic to provide temporary shelter, or house accommodation for the persons in whose houses infection has broken out.

12. The Corporation will have power to prohibit slaughtering, except in slaughter houses provided or registered by them.

13. Persons placing matters in sewers so as to effect their run will be liable to a penalty of five pounds.

31. Persons will not be allowed to turn steam or water over 110 °F. into the sewers.

32. The powers for enforcing privy accommodation and for the conversion of privies are largely extended.

33. A penalty can be inflicted on persons who do not keep their privy, urinal, or water closet, when used in common, in a cleanly condition.

34. The Corporation can compel the occupiers of inns, public houses, beer shops, eating houses, cook shops, or other place of public entertainment to provide suitable urinals.

35. New Houses cannot be occupied without the certificate of the Borough Surveyor.

Prevention of Disease.

36. Builders cannot build on sites impregnated with fœcal animal or vegetable matter.

37. No Houses can be built in new streets until the carriage and footways have been formed, and until the street has been sewered, paved, kerbed, and channelled.

These are some of the principal clauses obtained for the better prevention of disease. Where all are good it is difficult to make particular mention of any one. Yet it must be acknowledged that the notification of infectious disease clause and that relating to the laying-out of new streets are worth, from a health point of view, far more than the cost of the entire Act. In future there can be no jibes or sneers at "Lake districts" in the new streets of the borough. Landowners or others cannot evade the law by omitting to finish a street, or by similar artifices. The street must be made before the houses are built. This is the only way to ensure for the purchasers of property, or dwellers in it, certain access to their houses. Hitherto, the condition of many new streets has been a disgrace to those concerned, and a great nuisance to the town.

The good results that will accrue to the borough from notification of disease have been frequently discussed by the Medical Officer in previous Reports, and even in this he has had to allude to loss of life that has occurred owing to the absence of information.

Some excellent clauses were, however, struck out of the Bill by the Parliamentary Committee for reasons which, to many persons, were most unaccountable.

Rejected Clauses in Bill.

From a sanitary and health point of view it was necessary to include Southwick within the borough jurisdiction—it is already an integral part of it as much as Bridge Street is a part of Fawcett Street,—but the Committee of the House of Commons, not knowing the place, thought differently, and did not grant its incorporation with Sunderland.

Among the Sanitary Clauses the following were thrown out:

1. A clause providing a penalty for not providing drains or sinks to dwelling houses to carry off refuse water.

2. A clause for compelling all owners to disconnect all sinks, slop stones, &c., from direct communication from drains.

3. A clause to attach a penalty to the 36th Section of the Public Health Act for compelling persons to provide privy accommodation for their houses.

Prevention of Disease.

4. A clause to compel owners of property to make means of approach to ash-pits and privies for purposes of Scavenage, so that tenants shall not have to bear the horrible annoyances that now exist in bringing excreta and other filth through their rooms.
5. A clause to provide that ash-pits shall not be allowed in front or cross streets.
6. A clause to give power to the Corporation to compel the owners of yards or courts, which are in a filthy or unwholesome condition, to pave them.

These were the principal Sanitary Clauses thrown out; no one can deny that they were most useful, and it is impossible for anyone who knows this town to say that each one was not sadly required.

HOSPITALS.

There were 143 patients treated in the Union Fever Hospital and in the House of Recovery at the expense of the Sanitary Authority. Smallpox only was treated in the latter Institution, into which 104 patients were received; of these 15 died.

Union Fever Hospital.

In the Union Fever Hospital 79 patients were treated, of whom 8 died. The following are the diseases to which cases were referred:—

Smallpox	1 case	...	0 deaths.
Enteric Fever	15 ,,	...	0 ,,
Typhus ,,	46 ,,	...	5 ,,
Scarlet ,,	9 ,,	...	2 ,,
Measles	8 ,,	...	1 ,,
	79		8

New Borough

The Medical Officer has more than once mentioned that great difficulty was experienced in inducing patients to enter the latter Institution. Happily, this difficulty will soon cease, and it is hoped that patients will readily enter the Hospital about to be erected a short distance out-side the borough on the Hylton Road.

The site is pre-eminently suitable, and commands an extensive view of the country on every side.

The Corporation have wisely secured twelve acres, at a cost of £5,000. Considering the site is so near the borough this is considered a reasonable price. Unlike the case of most towns, the purchase was effected without opposition.

The Site has since been surrounded by a handsome brick wall at the cost of £850. It is hoped that during the current year the Hospital Buildings will be commenced. The plans have been decided on, and have met with general approbation. They have not been given out to competition, as during September a deputation visited some of the principal Hospitals in England and Scotland; and afterwards the Borough Engineer and Medical Officer designed plans, which have since been adopted by the Town Council.

SANITARY REPORT.

The general Sanitary condition of the borough during the year was extremely good—better, indeed, than it has been in the experience of the present Medical Officer of Health. The greatest improvement was exhibited in the cleanliness of the narrow streets, lanes, and courts in which there is much tenemented property. These places have been systematically flushed with water, so that filthy deposits were at once washed away. This practice has prove of much practical uitity, and it is difficult to conceive how it was not adopted years ago.

NUISANCES.

There were 4,998 nuisances examined into or reported on by the Inspectors. Of these 1,026 arose from defective house drains, roofs, water-closets, and ash-pits; 3,722 were created by dirty premises, rooms, yards, and out-houses; 211 were caused by defective spouts; 14 from over crowding; and 25 from deficient water supply.

No less than 1,144 notices were served on the occupiers of houses in which infectious diseases occurred to disinfect and cleanse the premises. As a rule, the disinfection was carried out by the Health Officials; in some few instances the people themselves preferred to disinfect under the provisions of the Public Health Act.

COMMON LODGING HOUSES.

The systematic visitation of these places was continued as usual, so that every house was visited at least once a month by night, and as frequently by day. Their condition is most excellent. Indeed, they have been better cared for by their owners than in any previous period. Their condition now will bear a most favourable contrast with any houses let in tenements in the borough.

The greatest benefit has been derived by the increase per bed of the cubic air space. The houses in which 300 cubic feet still exist are not nearly so pure as those in which 400 cubic feet are insisted on.

Two Keepers were fined by the Magistrates for infringment of the Bye-Laws relating to Common Lodging Houses.

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COW BYRES.

These places were periodically visited by the Inspectors; and they are, generally speaking, in a fair condition. In the opinion of the Medical Officer they are, however, rather overcrowded. This is owing to the fact that most of them were registered before the Committee raised the cubic space for each cow to 800 cubic feet.

SLAUGHTER HOUSES.

The condition of these places is, for the most part, the same as in previous years. The killing of cattle and sheep in shops still continues, to the discredit of the borough. In previous reports the Medical Officer has alluded fully to the subject, and he has now nothing new to add.

INSPECTION OF MEAT AND FISH.

The Meat Shops and Markets were regularly inspected. It is most satisfactory to report that there were fewer complaints against butchers for exposing bad meat than in previous years.

The inspection of fish landed at the fish quays has become a most important part of the work of the sanitary staff. By its means it is possible not only to check the sale of unsound fish in the borough, but also to prevent its being sent into the country. Six seizures were made, particulars of which are given in Table XIV. (Appendix).

SCAVENGING.

This most important work has been exceedingly well executed during the year, and the returns, notwithstanding the increase in the size of the town, exhibit most satisfactory results.

The work of cleansing of Ash-pits and Privies has been even better executed than usual. The work has been more successfully carried out on the block system than in the preceding year, the result of which is that whereas in 1884 74,869 ash-pits were cleansed containing 91,460 tons, yet, in 1885, there were 82,689 ash-pits cleansed, being an increase of 7,820; there were however, only 92,091 tons removed, or an increase of only 601 tons. This conclusively proves that the work is well done by the staff under Mr. Wilkinson. Another proof is that applications from tenants to cleanse their ash-pits fell from 6,148 in to 4,461 in the year now reported on.

TABLE F^2.

RETURN shewing the work done by the Ash-pit Cleansing Department.

Year.	No. of Inhabited Houses.	Estimated Population.	No. of Ash-pits Cleansed.	Quantity of Refuse Removed.		Average No. of Horses Employed Daily.	Applications received at Office to Empty Ash-pits.
				Loads.	Tons.		
1877	14,675	109,201	10,983	24,375	30,375	12	No record.
1878	14,994	111,049	No Returns available.	32,250	40,311	18½	8,205
1879	15,313	112,918		35,529	44,411	19¼	9,052
1880	15,632	114,819		45,747	57,183	19½	6,987
1881	15,956	116,753		56,321	70,401	23	12,554
1882	16,270	119,065	37,841	58,991	70,738	26	11,324
1883	16,728	121,117	47,607	66,188	82,735	30½	8,700
1884	17,208	123,165	74,869	73,192	91,490	30½	6,148
1885	17,444	125,273	82,689	73,662	92,091	30½	4,461

The important results exhibited in this table must have a very beneficial effect on the health of the community, to whom it is of great importance that such work should be executed efficiently and at short intervals.

The Chairman of the Health Committee.

The Medical Officer of Health desires to acknowledge the very great assistance he has received during the year from the Chairman of the Health Committee—Mr. Councillor Rickaby—This was specially marked during the epidemic of Measles, at which time, by his friendly consultations and counsels, he rendered very material aid to the Officials of the Health Department. Fortunately, it is not requisite for the Medical Officer to say a great deal on this subject, because the deep interest the Chairman takes in the health welfare of the town is proverbial.

Of the conduct of all the Officials under him, whether at the Health Office, the Hospital, or the Stables, the Medical Officer wishes to express his approval; and also to testify to their generally assiduous conduct, and to the careful manner in which they invariably discharged their duties.

ANALYST'S REPORT.

The following is a list of the articles analysed during the year:—

Article submitted for Analysis.	Result of Analysis: Shewing whether the sample was genuine or Adulterated, and, if Adulterated, what were the nature and extent of the Adulteration.	OBSERVATIONS.
Milk............ 16 samples	All Genuine	All of these were above the Standard of Somerset House; although 4 were below that of the Public Analyst.
Condensed Milk 6 ,,	Genuine.	
Butter .... 1 ,,	Genuine.	
Lard................ 6 ,,	Genuine.	
Gin .... 2 ,,	Genuine.	
Gin .... 1 ,,	Adulterated with water to 40 u.p..............................	No prosecution.
Rum.............. 2 ,,	Genuine.	
Rum................ 1 ,,	Adulterated with water to 40 u.p..............................	No prosecution.
Whiskey .... 3 ,,	Genuine.	
Coffee .... 6 ,,	Genuine.	
Coffee .... 1 ,,	Adulterated to the extent of 20 per cent. of Chicory	No prosecution.
Coffee .... 1 ,,	Adulterated to the extent of 15 per cent. of Chicory	No prosecution.
Cinnamon ...... 4 ,,	Genuine.	
Total Number... 50		

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APPENDIX.

VITAL AND SANITARY STATISTICS.

METEOROLOGICAL OBSERVATIONS.

1885.

TABLE I

Shewing the Population, Inhabited Houses, Marriages, Births, and Deaths, for the year 1885, and 10 years preceding.

GROSS NUMBERS.

The Year.	Estimated Population.*	No. of Inhabited Houses.	Marriages.	Registered Births.	Corrected Number of Deaths.†			Deaths in Public Institutions.
					Total all ages.	Under One Year.	Under Five Years	
1885.	125,273.	17,444.	1,168.	4,725.	2,977.	740.	1,505.	236.
1875	105,621	14,037	1,184	4,509	2,829	904	1,379	167
1876	107,400	14,356	1,081	4,409	2,638	772	1,284	160
1877	109,201	14,675	1,108	4,499	2,852	730	1,240	205
1878	111,049	14,994	1,125	4,641	3,232	960	1,733	207
1879	112,918	15,313	966	4,486	2,780	664	1,224	210
1880	114,819	15,632	1,133	4,372	3,164	802	1,621	227
1881	116,753	15,956	1,370	4,587	2,613	721	1,175	218
1882	119,065	16,270	1,547	4,889	3,310	951	1,655	202
1883	121,117	16,728	1,522	5,054	3,061	720	1,174	306
1884	123,165	17,208	1,230	5,338	2,937	907	1,412	247
Average of 10 years, 1875-84.	114,112	15,516	1,226	4,678	2,941	813	1,389	214

NOTES.

1.—Population of Census, 1881, = 116,548 = { 57,133 Males.
59,415 Females.

2.—Average Number of Persons in each house at Census, 1881, = 7·31.

3.— „ „ „ „ in 1885, = 7·18.

4.—Area of Borough in acres—2,963, exclusive of tidal water and foreshore, but including the docks.

5.—Average number of persons living on each acre at Census, 1881, = 41·17.

6.— „ „ „ „ in 1885, = 42·27.

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* For statistical purposes the Registrar General estimates the population to the middle of the year on the basis of the rate of increase ruling between the two preceding census periods. The estimate of population may be checked by the known number of inhabited houses, and by the average number of inmates per house, as ascertained at the preceding census.

† The number in these three columns have been corrected to the basis of the estimated population o 1885. The relative mortality can hence be more readily understood.

TABLE II.

Shewing the Annual Birth and Death Rates, Death Rates of Children, and proportion of Deaths in Public Institutions in a 1000 Deaths, for the year 1885, and 10 years preceding.

In Year.	Birth Rates per 1000 of the Population.	Corrected* Death Rates per 1000 of the Population.	Deaths of Children under 1 year per 1000 of Registered Births.	Deaths of Children under 1 year per 1000 of Total Deaths.	Deaths of Children under 5 years per 1000 of Total Deaths.	Deaths in Public Institutions per 1000 of Total Deaths.
1885	**37·72**	**23·76**	**156**	**245**	**505**	**82**
1875	42·68	22·57	169	319	487	70
1876	41·05	21·05	150	292	486	70
1877	41·19	22·76	141	256	434	82
1878	41·79	25·79	183	290	536	72
1879	39·71	22·19	133	238	440	83
1880	38·07	25·25	168	253	512	78
1881	39·30	20·85	146	275	449	89
1882	41·05	26·42	184	287	500	64
1883	41·72	24·43	137	235	383	103
1884	43·33	23·44	167	308	481	87
Average of 10 years, 1875—1884	40·99	23·43	157	276	472	79

* These rates have been corrected on the basis of the last Census Returns, and are not to be confounded with the corrected death rates of the Registrar General, in which corrections are made for variations of sex and age distribution.

TABLE III.

SHEWING DEATHS FROM ALL CAUSES DURING THE YEAR 1885.

CAUSES OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards.	Totals.
I.—Specific, Febrile, &c...	137	402	107	16	18	15	5	9	7	1	1	..	718
II.—Parasitic Diseases	1	..	..	..	..	..	..	..	..	..	..	..	1
III.—Dietic Diseases	1	..	..	1	..	..	1	..	1	..	..	..	4
IV.—Constitutional Diseases	30	70	40	53	56	65	36	27	12	3	..	..	392
V.—Developmental Diseases	72	..	..	..	..	..	..	6	35	70	17	1	201
VI.—Local Diseases	317	252	77	37	62	90	106	165	185	59	6	..	1356
VII.—Deaths from Violence	6	13	9	9	7	7	6	9	6	2	..	..	74
VIII.—Deaths from Ill-defined Causes	176	28	5	4	1	3	5	2	4	3	..	..	231
TOTALS	740	765	238	120	144	180	159	218	250	138	24	1	2977

1.—Specific or Febrile Causes.													
1.—Miasmatic Diseases.													
Smallpox — Vaccinated	..	..	1	..	..	..	..	1	..	..	..	..	2
Smallpox — Unvaccinated	1	1	..	..	1	2	..	..	.	..	..	..	5
Smallpox — Unknown	..	..	2	1	3	4	..	..	..	..	..	..	10
Measles	59	287	39	..	..	..	..	..	..	..	..	..	385
Scarlet Fever (Scarlatina)	5	57	41	2	1	..	..	..	..	..	..	..	106
Diphtheria	..	7	5	..	..	..	..	..	..	.	..	..	12
Whooping Cough	14	17	1	..	..	..	..	..	..	..	..	..	32
Typhus Fever	1	1	4	2	4	3	..	..	1	..	..	..	16
Enteric or Typhoid Fever	..	3	4	2	2	1	..	2	2	..	..	..	16
Simple Continued and Ill-defined Fever	..	..	3	..	..	..	..	1	..	..	..	..	4
Other Miasmatic Diseases	..	..	1	..	..	..	..	..	..	..	..	..	1
2.—Diarrhœal Diseases.													
Simple Cholera	1	..	..	..	..	..	..	..	:	..	..	..	1
Diarrhœa, Dysentery	40	26	5	2	..	3	2	2	..	..	1	..	81
3.—Malarial Diseases.													
Remittent Fever	..	..	..	..	..	..	..	.	..	..	..	..	..
Ague	..	..	..	..	..	..	.	..	..	..	..	..	..
4.—Zoogenous Diseases.													
Cowpox, Effects of Vaccination	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydrophobia	..	..	..	..	..	..	..	..	..	..	..	..	..
Glanders	..	..	..	..	..	..	..	..	..	..	..	..	..
Splenic Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
5.—Venereal Diseases.													
Syphilis	12	3	..	2	..	..	..	..	..	..	..	..	17
Gonnorhœa, Stricture of Urethra	..	..	..	..	..	..	..	..	..	..	..	..	..
6.—Septic Diseases.													
Erysipelas	4	..	..	..	..	..	2	2	4	1	..	..	13
Pyæmia, Septicæmia	..	..	1	3	1	..	1	1	..	..	..	..	7
Puerperal Fever	..	..	..	2	6	2	..	..	..	..	..	..	10
II.—Parasitic Diseases.													
Thrush	1	..	..	..	..	..	..	..	..	..	..	..	
Hydatids	..	..	..	..	..	..	..	..	..	..	..	..	
Other Animal Parasitical Diseases	..	..	..	..	..	..	..	..	..	..	..	..	

TABLE III.—Continued.

CAUSES OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards.	Totals.
III.—Dietic Diseases.													
Starvation, Want of Breast Milk	1	..	..	..	..	..	..	..	..	..	..	..	1
Scurvy	..	..	..	..	..	..	..	..	..	..	..	..	..
Chronic Alcoholism, Delirium Tremens ..	..	..	..	1	..	..	1	..	1	..	..	..	3
IV.—Constitutional Diseases.													
Rheumatic Fever, and Rheumatism of the Heart..	..	..	2	2	..	..	..	..	..	..	..	..	4
Rheumatism	..	..	1	1	1	..	..	1	1	1	..	..	6
Gout	..	..	..	..	..	..	..	..	..	..	..	..	..
Rickets	..	..	..	..	..	..	..	..	..	..	..	..	..
Cancer, Malignant Disease	..	..	1	..	2	10	12	17	7	2	..	..	51
Tabes Mesenterica	4	16	3	..	..	..	..	..	..	..	..	..	23
Tubercular Meningitis, Hydrocephalus ..	10	27	5	1	..	..	..	..	..	..	..	..	43
Phthisis	4	13	23	43	48	52	22	5	2	..	..	..	212
Other Tubercular and Scrofulous Diseases	12	14	5	4	2	1	..	..	..	..	..	..	38
Purpura, Hæmorrhagic Diathesis	..	..	..	..	..	..	..	..	1	..	..	..	1
Anæmia, Chlorosis, Leucocythæmia.. ..	..	..	..	1	2	1	..	3	..	..	..	..	7
Glycosuria, Diabetes Mellitus	..	..	..	1	1	1	2	1	1	..	..	..	7
Other Constitutional Diseases..	..	..	..	..	..	..	..	..	..	..	..	..	..
V.—Developmental Diseases.													
Premature Birth..	60	..	..	..	..	..	..	..	.	..	..	..	60
Atelectasis..	6	..	..	..	..	..	..	..	..	..	..	..	6
Congenital Malformations	6	..	..	..	..	..	..	..	..	..	..	..	6
Old Age	..	..	..	..	..	..	..	6	35	70	17	1	129
VI.—Local Diseases.													
1.—Diseases of Nervous System.													
Inflammation of Brain or Membranes ..	26	27	23	4	3	2	3	1	1	.	..	..	90
Apoplexy	.	..	..	1	3	3	13	14	14	5	..	..	53
Softening of Brain	..	..	..	..	..	..	..	2	4	..	..	..	6
Hemiplegia	..	1	..	..	..	1	1	3	7	3	..	..	16
Brain Paralysis	..	..	..	..	..	1	..	..	..	..	..	..	1
Insanity, General Paralysis of the Insane ..	..	..	..	..	..	..	..	1	.	..	..	..	1
Epilepsy	..	1	3	2	..	4	1	..	3	1	..	..	15
Convulsions	104	30	2	1	..	1	..	..	..	..	..	..	138
Laryngismus Stridulus	..	..	..	..	..	..	..	..	..	..	..	..	..
Paralysis Agitans	..	..	..	.	..	..	..	..	..	..	..	..	..
Paraplegia	.	1	..	..	2	4	6	8	18	6	1	..	46
Diseases of Spinal Cord..	..	1	3	1	..	2	..	.	..	..	.	..	7
Other Diseases of Nervous System	3	1	2	..	..	2	..	3	14	5	..	..	30
2.—Diseases of Organs of Special Sense.													
Ear, Diseases of	..	..	1	..	..	..	..	..	..	..	..	..	1
Eyes ,, ...	..	..	..	..	..	..	..	..	..	..	..	..	..
Nose ,, ...	..	..	..	..	..	..	..	..	..	..	..	..	..
3.—Diseases of Circulatory System.													
Endocarditis	..	..	..	..	1	..	..	..	..	..	..	..	1
Valvular Diseases of Heart	..	..	1	..	1	5	5	4	1	1	..	..	18
Pericarditis	..	1	..	..	1	..	..	2	..	1	..	..	5
Other Diseases of the Heart	3	1	4	6	11	18	23	25	33	10	1	..	135
Aneurism	..	..	..	..	2	1	..	..	..	..	..	..	3
Embolism, Thrombosis	..	..	.	2	1	..	..	..	..	..	..	..	3
Other Diseases of Blood Vessels	..	..	..	..	1	1	1	1	1	..	..	..	5
4.—Diseases of Respiratory System.													
Croup	2	20	1	..	..	..	..	..	..	..	..	..	23
Laryngitis	..	6	1	1	..	1	..	..	1	..	..	..	10
Bronchitis	95	74	10	2	7	9	13	48	50	13	3	..	324
Pneumonia	42	56	16	7	11	11	12	13	10	6	1	..	185
Broncho-Pneumonia	2	5	..	..	1	2	..	4	1	1	..	..	16
Pleuro-Pneumonia	..	..	..	..	..	..	..	..	..	..	..	..	..
Pleurisy	..	..	1	..	1	..	1	1	..	1	..	..	5
Emphysema	..	..	..	..	..	..	1	..	..	..	..	..	1
Asthma	..	..	..	..	..	..	..	1	..	1	..	..	2
Other Diseases of Respiratory System ..	2	1	..	1	1	..	..	1	..	..	..	..	6

TABLE III.—Continued.

CAUSES OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards.	Totals.
VI.—Local Diseases—Contd.													
5.—Diseases of Digestive System.													
Dentition	17	15	....	....	....	....	....	....	....	....	....	....	32
Sore Throat, Quinsey	....	2	....	....	....	....	....	....	....	....	....	....	2
Diseases of Stomach	2	3	....	....	2	2	2	1	1	....	....	....	13
Enteritis	7	....	1	....	....	....	....	1	1	....	....	....	10
Peritonitis	....	....	1	2	3	1	5	2	2	....	....	....	16
Obstructive Diseases of Intestines	2	1	....	2	....	1	1	2	4	....	....	....	13
Ascites	....	....	....	....	1	....	....	....	....	....	....	....	1
Cirrhosis of Liver	....	....	1	....	....	3	3	3	1	....	....	....	11
Other Diseases of Liver	5	....	....	....	....	3	3	7	5	1	....	....	24
Other Diseases of Digestive System	3	....	1	....	2	....	2	1	....	....	....	....	9
6.—Diseases of Lymphatic System.													
Lymphatics and of Spleen	....	....	....	....	....	....	....	....	....	....	....	....	....
7.—Diseases of Glandlike Organs of Uncertain Use.													
Bronchocele	....	....	....	....	....	....	....	....	....	....	....	....	....
Addison's Disease	....	....	....	....	....	....	....	....	....	....	....	....	....
8.—Diseases of Urinary System:													
Nephritis	....	1	1	....	1	....	2	1	1	1	....	....	8
Bright's Disease, Albuminuria	....	2	1	1	1	3	3	6	2	1	....	....	20
Disease of Bladder	....	....	....	....	....	....	....	3	3	....	....	....	6
,, Prostate	....	....	....	....	....	....	1	....	....	....	....	....	1
Other Diseases of the Urinary System	2	....	....	....	....	....	2	....	2	....	....	....	6
9.—Diseases of Re-productive System.													
A—*Of Organs of Generation.*													
Male Organs of Generation	....	....	....	....	....	....	....	....	....	....	....	....	....
Female Organs ,,	....	....	....	....	....	3	....	....	1	2	....	....	6
B—*Of Parturition.*													
Abortion, Miscarriage	....	....	....	....	....	....	....	....	....	....	....	....	....
Puerperal Convulsions	....	....	....	1	....	1	....	....	....	....	....	....	2
Placenta Prævia, Flooding	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Accidents of Child Birth	....	....	....	1	4	4	....	....	....	....	....	....	9
10.—Diseases of Bones and Joints.													
Caries, Necrosis	....	1	1	1	1	....	....	....	....	....	....	....	4
Arthritis, Ostitis, Periostitis	....	....	....	....	....	....	....	1	....	....	....	....	1
Other Diseases of Bones and Joints	....	....	2	....	....	....	....	2	2	....	....	....	6
11.—Diseases of Integumentary System.													
Carbuncle	....	....	....	....	....	....	....	....	....	....	....	....	....
Phlegmon	....	....	....	....	....	....	....	....	....	....	....	....	....
Cellulitis	....	....	....	....	....	1	....	1	1	....	....	....	3
Other Diseases of Integumentary System	....	1	....	1	....	....	2	2	1	....	....	....	7
VII.—Violence.													
1.—Accident or Negligence.													
Fracture and Contusion	....	2	3	3	5	5	3	7	4	2	....	....	34
Gunshot Wound	....	....	....	....	....	....	....	....	....	....	....	....	....
Cut, Stab	....	....	....	....	....	....	....	....	....	....	....	....	....
Burn and Scald	....	8	4	1	....	1	....	....	....	....	....	....	14
Poison	....	....	....	....	....	....	....	....	....	....	....	....	....
Drowning	....	....	1	2	1	....	1	1	1	....	....	....	7
Suffocation	5	3	....	....	....	....	....	....	....	....	....	....	8
Otherwise	....	....	....	1	....	....	1	....	....	....	....	....	2
2.—Homicide { Manslaughter	....	....	....	....	1	....	1	....	....	....	....	....	2
2.—Homicide { Murder	1	....	....	....	....	....	....	....	....	....	....	....	1
3.—Suicide	....	....	1	2	....	1	....	1	1	....	....	....	6
VIII.—Deaths from Ill-defined Causes.													
Dropsy	2	....	....	1	....	....	....	1	2	....	....	....	6
Debility	103	2	....	....	....	....	3	....	....	....	....	....	108
Marasmus and Atrophy	57	20	1	1	....	....	....	....	....	....	....	....	79
Inanition	9	....	....	....	....	....	....	....	....	....	....	....	9
Sudden Death	....	....	1	....	....	1	....	....	....	1	....	....	3
Other causes not specified or Ill-defined	5	6	3	2	1	2	2	1	2	2	....	....	26
TOTALS	740	765	238	120	144	180	159	218	250	138	24	1	2977

SUMMARY OF TABLE III.

TOGETHER WITH SUMMARY OF THE SAME TABLE FOR THE PRECEDING TWO YEARS.

	No. of Deaths.		
	1883.	1884.	**1885.**
I.—Specific, Febrile, or Zymotic Diseases	...	...	...
1. Miasmatic Diseases	224	275	589
2. Diarrhœal "	85	150	82
3. Malarial "	...	...	...
4. Zoögenous "	...	...	...
5. Venereal "	25	11	17
6. Septic	20	14	30
II.—Parasitic Diseases	1	1	1
III.—Dietic Diseases	6	6	4
IV.—Constitutional Diseases	410	425	392
V.—Developmental Diseases	228	237	201
VI.—Local Diseases	...	...	...
1. Diseases of Nervous System	408	439	403
2. Diseases of Organs of Special Sense	...	2	1
3. Diseases of Circulatory System	216	164	170
4. Diseases of Respiratory System	528	532	572
5. Diseases of Digestive System	179	159	131
6. Diseases of Lymphatic System	...	2	...
7. Diseases of Gland-like Organs of Uncertain use	2	1	...
8. Diseases of Urinary System	43	47	41
9. Diseases of Reproductive System	...	...	...
(a) Diseases of Organs of Generation	8	7	6
(b) Diseases of Parturition	19	11	11
10. Diseases of Bones and Joints	17	15	11
11. Diseases of Integumentary System	13	12	10
VII.—Violence	...	...	...
1. Accident or Negligence	273	82	65
2. Homicide	1	2	3
3. Suicide	6	9	6
4. Execution	...	...	...
VIII.—Ill-defined and not specified Causes	249	285	231
Total	2,961	2,888	2,977

TABLE IIIa.

SHEWING THE DEATHS FROM ALL CAUSES REGISTERED IN EACH DISTRICT DURING THE YEAR 1885,

AT THREE PERIODS OF LIFE.

CAUSES OF DEATH.	Sunderland East.			Sunderland West.			Bishopwth North.			Bishopwth South.			Monkwearmouth.	
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.
I—Specific, Febrile, &c.	14	22	13	13	27	3	39	152	69	37	107	42	34	94
II—Parasitic Diseases	....	....	...	....	....	....	....	....	....	....	....	....	1	....
III—Dietic Diseases	....	....	....	....	....	....	1	....	1	....	....	1	....	....
IV—Constitutional Diseases	2	6	13	4	3	16	9	23	101	8	19	96	7	19
V—Developmental Diseases ..	3	....	14	1	...	8	32	....	47	19	....	38	17	....
VI—Local Diseases	34	19	63	24	23	49	89	88	286	104	66	243	66	56
VII—Deaths from Violence	2	1	4	....	....	7	2	4	7	1	6	28	1	2
VIII—Deaths from Ill-defined Causes..	19	1	2	7	1	3	57	10	7	54	1	8	39	15
TOTALS	74	49	109	49	54	86	229	277	518	223	199	456	165	186

CAUSES OF DEATH.	Sunderland East.			Sunderland West.			Bishopwth North.			Bishopwth South.			Monkwearmouth.	
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.
I.—Specific or Febrile Causes.														
1.—Miasmatic Diseases.														
Smallpox: Vaccinated	....	....	....	....	....	....	....	....	2	....	....	....	...	....
Smallpox: Unvaccinated	....	....	....	....	....	....	1	1	3	....	....	....	....	...
Smallpox: Unknown	....	....	....	....	....	....	....	....	8	....	....	....	....	....
Measles	4	15	5	3	22	2	24	125	16	15	67	6	13	58
Scarlet Fever (Scarlatina)	....	2	2	....	1	....	2	12	9	3	24	15	....	18
Diphtheria	....	....	....	....	1	....	....	3	1	....	2	....	....	1
Whooping Cough	2	2	....	....	1	....	....	4	1	5	5	....	7	5
Typhus Fever	1	....	....	....	....	....	....	....	10	....	1	2	....	....
Enteric or Typhoid Fever	....	....	1	....	....	1	....	1	5	....	....	5	....	2
Simple Continued and Ill-defined Fever	....	....	....	....	....	....	....	....	....	....	....	1	....	....
Other Miasmatic Diseases	....	....	....	....	....	....	....	....	....	....	....	1	....	....
2.—Diarrhœal Diseases.														
Simple Cholera	....	....	...	1	....	....	....	....	....	....	....	....	....	....
Diarrhœa, Dysentery	6	3	1	5	2	....	9	5	5	9	7	5	11	9
3.—Malarial Diseases.														
Remittent Fever	....	....	....	....	....	....	....	....	....	..	....	....	....	...
Ague	....	....	....	....	....	....	....	....	....	....	....	....	....	....
4.—Zoogenous Diseases.														
Cowpox, Effects of Vaccination . ..	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hydrophobia	....	...	....	....	....	....	....	....	....	...	....	....	....	....
Glanders	....	....	....	....	....	....	....	....	....	...	....	....	....	....
Splenic Fever	....	...	....	....	....	....	....	....	....	....	.. .	....	...	....
5.—Venereal Diseases.														
Syphilis	....	....	....	4	..	....	2	1	1	3	1	....	3	1
Gonnorhœa, Stricture of Uthrcthra ..	....	....	....	....	....	....	....	....	....	....	....	....	....	....
6.—Septic Diseases.														
Erysipelas	1	....	1	....	....	.. .	1	....	3	2	....	2	....	....
Pyæmia, Septicæmia	....	....	2	....	....	....	....	....	3	...	....	2	....	....
Puerperal Fever	....	....	1	....	....	....	....	....	2	....	....	3	....	....
II.—Parasitic Diseases.														
Thrush	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Hydatids	....	....	....	....	....	....	....	....	....	....	....	...	....	....
Other Animal Parasitical Discases ..	...	....	....	....	....	....	...	....	....	....	....	....	....	....

CAUSES OF DEATH.	Sunderland East.			Sunderland West.			Bishopwth North.			Bishopwth South.			Monkwear-mouth.		
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.
III.—Dietic Diseases.															
Starvation, Want of Breast Milk ..	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....
Scurvy	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Chronic Alcoholism, Delirium Tremens	....	....	....	....	....	....	....	....	1	....	....	1	....	....	1
IV.—Constitutional Diseases.															
Rheumatic Fever, and Rheumatism of the Heart	....	....	....	....	....	....	....	....	3	....	....	....	....	....	1
Rheumatism	....	....	....	....	....	1	....	....	1	....	....	4	....	....	....
Gout	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Rickets	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Cancer, Malignant Disease	....	....	2	....	....	3	....	....	13	....	....	18	....	....	15
Tabes Mesenterica	....	....	....	....	1	..	1	7	2	2	2	....	1	6	1
Tubercular Meningitis, Hydrocephalus	....	1	....	....	1	....	4	6	3	5	14	....	1	5	3
Phthisis	....	....	7	....	....	9	3	7	75	....	2	62	1	4	42
Other Tubercular & Scrofulous Diseases	2	5	3	4	1	....	1	3	2	1	1	7	4	4	....
Purpura, Hæmorrhagic Diathesis	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....
Anæmia, Chlorosis, Leucocythæmia ..	....	....	....	....	....	2	....	....	1	....	....	2	....	....	2
Glycosuria, Diabetes Mellitus	....	....	1	....	....	1	....	....	....	....	....	3	....	....	2
Other Constitutional Diseases ..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
V.—Developmental Diseases.															
Premature Birth	3	....	....	1	....	....	26	....	....	14	....	....	16	....	...
Atelectasis	....	....	....	....	....	....	1	....	....	4	....	....	1	....	....
Congenital Malformations	....	....	....	....	....	....	5	....	....	1	....	....	....	....	....
Old Age	....	....	14	....	....	8	....	....	47	....	....	38	....	....	22
VI.—Local Diseases.															
1—Diseases of Nervous System.															
Inflammation of Brain or Membranes ..	3	2	5	3	2	1	3	4	10	9	13	13	8	6	8
Apoplexy	....	....	6	....	....	5	....	....	20	....	....	14	....	....	8
Softening of Brain	....	....	....	....	....	1	....	....	....	....	....	3	....	....	2
Hemiplegia	....	....	1	....	....	....	....	1	3	....	....	9	....	....	2
Brain Paralysis	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....
Insanity, General Paralysis of the Insane	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
Epilepsy	....	....	2	....	....	....	....	....	4	....	1	5	....	....	3
Convulsions	12	2	1	7	4	....	28	11	....	32	5	3	25	8	....
Laryngismus Stridulus	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Paralysis Agitans	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Paraplegia	....	....	3	....	....	1	....	....	21	....	....	12	....	1	8
Diseases of Spinal Cord	....	....	....	....	....	1	..	....	1	....	....	2	....	1	2
Other Diseases of Nervous System ..	....	....	....	....	....	....	2	....	17	....	....	6	1	1	3
2.—Diseases of Organs of Special Sense.															
Ear, Diseases of	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....
Eyes ,, ...	..	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Nose ,, ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
3.—Diseases of Circulatory System.															
Endocarditis	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....
Valvular Diseases of Heart	....	....	3	....	....	1	....	....	11	....	....	2	....	....	1
Pericarditis	....	....	....	....	....	1	....	....	....	....	1	3	....	....	....
Other Diseases of Heart	....	....	7	....	..	7	2	1	47	1	....	38	....	....	32
Aneurism	..	....	....	....	....	1	....	....	...	....	....	1	....	....	1
Embolism, Thrombosis	....	....	....	....	..	....	....	....	....	....	....	1	....	....	2
Other Diseases of Blood Vessels ..	....	....	1	....	....	....	....	....	1	....	....	2	....	....	1
4.—Diseases of Respiratory System.															
Croup	....	1	.. .	....	2	....	2	10	1	....	5	....	....	2	....
Laryngitis	....	....	...	....	1	1	....	2	1	....	2	....	....	1	2
Bronchitis	12	9	16	9	7	17	28	30	61	28	14	10	18	14	21
Pneumonia	4	3	4	2	7	5	14	13	31	14	20	31	8	13	16
Broncho-Pneumonia	....	..	...	....	...	....	1	3	2	1	....	1	....	2	6
Pleuro-Pneumonia	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Pleurisy	....	....	1	....	....	....	....	....	2	....	....	1	....	....	1
Emphysema	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....
Asthma	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....
Other Diseases of Respiratory System ..	....	....	....	....	....	....	....	1	1	1	....	2	1	....	....

TABLE IIIA.—CONTINUED.

CAUSES OF DEATH.	Sunderland East.			Sunderland West.			Bishopwth North.			Bishopwth South.			Monkwear-mouth.		
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.
VI.—Local Diseases—Contd.															
5.—Diseases of Digestive System.															
Dentition	3	1	....	1	....	....	5	8	....	6	2	....	2	4	...
Sore Throat, Quinsey	....	....	....	....	....	....	....	2	....	....	....	....	....	....	...
Diseases of Stomach	....	....	1	....	....	1	....	....	3	2	1	3	....	2	...
Enteritis	....	....	....	1	....	1	1	....	1	3	....	1	2	....	
Peritonitis	....	....	2	....	....	1	....	....	1	....	....	6	....	....	
Obstructive Diseases of Intestines	....	....	1	....	....	1	....	1	3	2	....	4	....	....	
Ascites	....	....	....	....	....	....	....	....	1	....	....	....	....	....	...
Cirrhosis of Liver	....	....	....	....	....	....	....	....	2	....	....	6	....	....	
Other Diseases of Liver	....	....	3	....	....	....	2	....	4	3	....	6	....	....	
Other Diseases of Digestive System	....	....	1	1	....	1	....	....	1	2	....	3	....	....	...
6.—Diseases of Lymphatic System.															
Lymphatics and of Spleen	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..
7.—Diseases of Glandlike Organs of Uncertain Use.															
Bronchocele	....	....	....	....	....	....	....	....	....	....	....	....	....	....	...
Addison's Disease	....	....	....	....	....	....	....	....	....	....	....	....	....	....	...
8.—Diseases of Urinary System.															
Nephritis	....	....	2	....	....	1	....	....	2	....	1	2	....	....	..
Bright's Disease, Albuminuria	....	....	1	....	....	1	....	1	11	....	1	3	....	....	
Disease of Bladder	....	....	....	....	....	....	....	....	1	....	....	5	....	....	..
,, Prostate	....	....	....	....	....	....	....	....	1	....	....	...	....	....	..
Other Disease of the Urinary System	....	....	....	....	....	....	1	....	....	....	....	3	1	....	
9.—Diseases of Re-productive System.															
A—Of Organs of Generation.															
Male Organs of Generation	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..
Female Organs	....	....	....	....	....	....	....	....	2	....	....	3	....	....	
B—Of Parturition.															
Abortion, Miscarriage	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..
Puerperal Convulsions	....	....	....	....	....	....	....	....	2	....	....	....	....	....	..
Placenta Prævia, Flooding	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..
Other Accidents of Child Birth	....	....	2	....	....	....	....	....	1	....	....	2	....	....	
10.—Diseases of Bones and Joints.															
Caries, Necrosis	....	1	....	....	....	....	....	....	2	....	....	1	....	....	..
Arthritis, Ostitis, Periostitis	....	....	....	....	....	....	....	....	1	....	....	....	....	....	..
Other Diseases of Bones and Joints	....	....	....	....	....	....	....	....	4	....	....	1	....	....	
11.—Diseases of Integumentary System.															
Carbuncle	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..
Phlegmon	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..
Cellulitis	....	....	....	....	....	....	....	....	2	....	....	1	....	....	..
Other Diseases of Integumentary System	....	....	....	....	....	....	....	....	1	....	....	3	....	1	
VII.—VIOLENCE.															
1—Accident or Negligence.															
Fracture and Contusion	....	....	1	....	....	2	....	....	3	....	2	18	....	....	
Gunshot Wound	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..
Cut, Stab	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..
Burn and Scald	....	1	....	....	....	....	....	2	....	....	3	5	....	2	
Poison	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..
Drowning	....	....	3	....	....	3	....	....	1	....	....	....	....	....	..
Suffocation	1	....	....	....	....	....	2	2	....	1	1	....	1	....	..
Otherwise	....	....	....	....	....	....	....	....	1	....	....	1	....	....	..
2.—Homicide } Manslaughter	....	....	....	....	....	....	....	....	1	....	....	1	....	....	..
2.—Homicide } Murder	1	....	....	....	....	....	....	....	....	....	....	....	....	....	..
3.—Suicide	....	....	....	....	....	2	....	....	1	....	....	3	....	....	..
VIII—Deaths from Ill-defined Causes.															
Dropsy	....	....	....	....	....	....	2	....	2	....	....	2	....	....	
Debility	14	....	1	5	....	....	39	2	1	32	....	....	13	....	
Marasmus and Atrophy	4	1	....	2	1	....	12	4	1	19	....	1	20	14	
Inanition	....	....	....	....	....	....	1	....	....	3	....	....	5	....	
Sudden Death	....	....	1	....	....	....	....	....	1	....	....	1	....	....	
Other Causes not specified or ill-defined	1	....	....	....	....	3	3	4	2	....	1	4	1	1	
TOTALS	74	49	109	49	54	86	229	277	518	223	199	456	165	186	

TABLE IIIb.

SHEWING THE DEATHS FROM ALL CAUSES REGISTERED IN

EACH QUARTER.

CAUSES OF DEATH.	1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.			Total.
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
I.—Specific, Febrile, &c.	65	247	69	17	94	47	43	40	36	12	21	27	718
II.—Parasitic Diseases	....	....	....	1	....	....	....	....	....	....	....	....	1
III.—Dietic Diseases	....	....	....	....	....	1	1	....	2	....	....	....	4
IV.—Constitutional Diseases	7	18	91	9	22	69	9	21	69	5	9	63	392
V.—Developmental Diseases	25	....	42	13	....	36	16	....	23	18	....	28	201
VI.—Local Diseases	86	105	215	85	49	182	73	52	184	73	46	206	1356
VII.—Deaths from Violence	1	3	23	1	1	15	1	4	5	3	5	12	74
VIII.—Deaths from Ill-defined Causes ..	41	11	9	52	9	6	49	6	4	34	2	8	231
TOTALS	225	384	449	178	175	356	192	123	323	145	83	344	2977
I.—Specific or Febrile Causes.													
1.—*Miasmatic Diseases.*													
Smallpox Vaccinated	....	....	....	....	....	2	....	....	....	....	....	....	2
Smallpox Unvaccinated	1	1	1	....	....	2	....	....	....	....	....	....	5
Smallpox Unknown	....	....	3	....	....	4	....	....	2	....	....	1	10
Measles	53	223	34	6	59	3	....	3	1	....	2	1	385
Scarlet Fever (Scarlatina)..	1	14	7	1	21	17	2	15	9	1	7	11	106
Diphtheria	....	2	2	....	1	3	....	....	....	....	4	....	12
Whooping Cough	6	5	1	3	4	....	1	3	....	4	5	....	32
Typhus Fever	....	....	3	....	1	3	1	....	5	....	....	3	16
Enteric or Typhoid Fever..	....	1	4	....	....	5	....	2	3	....	....	1	16
Simple Continued and Ill-defined Fever ..	....	....	1	....	....	2	....	....	1	....	....	....	4
Other Misasmatic Diseases	....	....	....	....	....	....	....	....	....	....	....	1	1
2.—*Diarrhœal Diseases:*													
Simple Cholera	....	....	....	....	....	....	1	....	....	....	....	....	1
Diarrhœa, Dysentery	1	....	4	4	7	1	34	16	7	1	3	3	81
3.—*Malarial Diseases.*													
Remittent Fever	....	....	....	....	....	....	....	....	....	....	....	....	......
Ague	....	....	....	....	....	....	....	....	....	....	....	....	......
4.—*Zoogenous Diseases.*													
Cowpox, Effects of Vaccination	....	....	....	....	....	....	....	....	....	....	....	....	......
Hydrophobia	....	....	....	....	....	....	....	....	....	....	....	....	......
Glanders..	....	....	....	....	....	....	....	....	....	....	....	....	......
Splenic Fever	....	....	....	....	....	....	....	....	....	....	....	....	......
5.—*Venereal Diseases.*													
Syphilis	2	1	....	2	1	1	3	1	1	5	....	....	17
Gonnorhœa, Stricture of Urethra	....	....	....	....	....	....	....	....	....	....	....	....	......
6.—*Septic Diseases.*													
Erysipelas	1	....	2	1	....	2	1	....	2	1	....	3	13
Pyæmia, Septicæmia	....	....	3	....	....	1	....	....	....	....	....	3	7
Puerperal Fever	....	....	4	....	....	1	....	....	5	....	....	....	10
II.—Parasitic Diseases.													
Thrush	....	....	....	1	....	....	....	....	....	....	....	....	1
Hydatids..	....	....	....	....	....	....	....	....	....	....	....	....	......
Other Animal Parasitical Diseases.. ..	....	....	....	....	....	....	....	....	....	....	....	....	......

TABLE IIIb.—Continued.

CAUSES OF DEATH.	1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.			Total.
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
III.—Dietic Diseases.													
Starvation, Want of Breast Milk	....	....	....	....	....	....	1	....	....	....	....	....	
Scurvy	....	....	....	....	....	....	....	....	....	....	....	....	....
Chronic Alcholism, Delirium Tremens ..	....	....	....	....	....	1	....	....	2	....	....	....	
IV.—Constitutional Diseases.													
Rheumatic Fever, and Rheumatism of the Heart	....	....	1	....	....	2	....	....	1	....	....	....	
Rheumatism	....	....	2	....	....	1	....	....	1	....	....	2	
Gout	....	....	....	....	....	....	....	....	....	...	....	....	....
Rickets	....	....	....	....	....	....	....	....	....	....	....	....	....
Cancer, Malignant Disease	....	....	19	....	....	9	....	....	10	....	....	13	
Tabes Mesenterica	1	4	1	1	7	2	1	3	....	1	2	....	
Tubercular Meningitis, Hydrocephalus ..	3	11	1	5	5	3	....	7	1	2	4	1	
Phthisis	1	1	61	....	7	44	2	4	51	1	1	39	
Other Tubercular and Scrofulous Disease ..	2	2	5	3	3	5	6	7	1	1	2	1	
Purpura, Hæmorrhagic Diathesis	....	....	....	....	....	....	....	....	1	....	....	....	
Anæmia, Chlorosis, Leucocythæmia ..	....	....	....	....	....	2	....	....	2	....	....	3	
Glycosuria, Diabetes Mellitus	....	....	1	....	....	1	....	....	1	....	....	4	
Other Constitutional Diseases	....	....	....	....	....	....	....	....	....	....	....	....	....
V.—Developmental Diseases.													
Premature Birth	17	....	....	11	....	....	14	....	....	18	....	....	
Atelectasis	5	....	....	1	....	....	....	....	....	....	....	....	
Congenital Malformations .. : ..	3	....	....	1	....	....	2	....	....	...	....	....	
Old Age	....	....	42	....	....	36	....	....	23	..	....	28	
VI.—Local Diseases.													
1.—Diseases of Nervous System.													
Inflammation of Brain or Membranes ..	5	7	7	8	6	7	9	10	11	4	4	12	
Apoplexy	....	....	13	....	....	17	....	....	14	....	....	9	
Softening of Brain	....	....	2	....	....	1	....	....	....	....	....	3	
Hemiplegia	....	....	4	....	1	3	....	....	3	....	....	5	
Brain Paralysis	....	....	....	....	...	1	....	....	....	....	....	....	
Insanity, General Paralysis of the Insane ..	....	....	....	....	....	....	....	....	1	....	....	....	
Epilepsy	....	1	3	....	....	1	..	....	4	....	....	6	
Convulsions	30	12	....	25	6	2	25	8	1	24	4	1	
Laryngismus Stridulus	....	....	...	....	....	....	....	....	....	....	....	....	....
Paralysis Agitans..	....	....	....	....	....	....	....	....	....	....	....	....	....
Paraplegia	....	....	10	....	1	12	....	....	14	....	....	9	
Diseases of Spinal Cord	....	1	2	....	....	2	....	....	1	....	....	1	
Other Diseases of Nervous System ..	....	....	10	3	....	6	....	....	6	....	1	4	
2.—Diseases of Organs of Special Sense.													
Ear, Diseases of	....	....	....	....	....	....	....	....	....	....	....	1	
Eyes ,, ...	....	....	....	....	....	....	....	....	....	....	....	....	....
Nose ,, ...	....	....	....	....	....	....	....	....	....	....	....	....	....
3.—Diseases of Circulatory System.													
Endocarditis	....	....	....	....	....	1	....	....	....	....	....	....	
Valvular Diseases of Heart	....	....	6	....	....	2	....	....	4	....	....	6	
Pericarditis	....	....	....	....	....	1	....	....	1	....	1	2	
Other Diseases of Heart	....	....	32	1	....	30	1	1	36	1	....	33	
Aneurism	....	....	2	....	....	....	....	....	....	....	....	1	
Embolism, Thrombosis	....	....	....	....	....	1	....	....	1	....	....	1	
Other Diseases of Blood Vessels	....	....	1	....	....	1	....	....	2	....	...	1	
4.—Diseases of Respiratory System.													
Croup	....	14	1	....	2	....	2	1	....	....	3	....	
Laryngitis	...	2	1	....	....	3	....	2	....	....	2	....	
Bronchitis	30	29	52	32	18	30	13	14	31	20	13	42	
Pneumonia	12	26	28	6	8	27	10	10	11	14	12	21	
Broncho-Pneumonia	....	4	1	....	....	5	....	....	....	2	1	3	
Pleuro-Pneumonia	....	....	....	....	....	....	....	....	....	....	....	....	....
Pleurisy	....	....	3	....	....	....	....	....	1	....	...	1	
Emphysema	....	....	....	....	....	....	....	....	....	....	....	1	
Asthma	....	....	1	....	....	....	....	....	1	....	....	....	
Other Diseases of Respiratory System ..	...	....	2	1	....	1	....	1	....	1	....	....	

CAUSES OF DEATH.	1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.			Total.
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
VI.—Local Diseases—Contd.													
5.—Diseases of Digestive System.													
Dentition	6	6	....	3	4	....	5	4	....	3	1	....	32
Sore Throat, Quinsey	....	....	....	....	1	....	....	....	....	....	1	....	2
Diseases of Stomach	....	....	....	2	1	2	....	1	4	....	1	2	13
Enteritis	1	....	1	....	....	....	4	....	1	2	....	1	10
Peritonitis	....	....	3	....	....	4	....	....	4	....	....	5	16
Obstructive Diseases of Intestine	....	1	1	....	....	1	2	....	4	....	....	4	13
Ascites	....	....	....	....	....	....	....	....	1	....	....	....	1
Cirrhosis of Liver	....	....	5	....	....	3	....	....	2	....	....	1	11
Other Diseases of Liver	1	....	5	3	....	5	1	....	4	....	....	5	24
Other Diseases of Digestive System ..	1	....	1	1	....	1	....	....	1	1	....	3	9
6.—Diseases of Lymphatic System ..													
Lymphatics and of Spleen	....	....	....	....	....	....	....	....	....	....	....	....	......
7.—Diseases of Glandlike Organs of Uncertain Use.													
Bronchocele	....	....	....	....	....	....	....	....	....	....	....	....	......
Addison's Disease	....	....	....	....	....	....	....	....	....	....	....	....	......
8.—Diseases of Urinary System.													
Nephritis	....	....	2	....	1	....	....	....	4	....	....	1	8
Bright's Disease, Albuminuria	....	1	7	....	....	2	....	....	3	....	1	6	20
Disease of Bladder	....	....	2	....	....	1	....	....	2	....	....	1	6
,, Prostate	....	....	....	....	....	....	....	....	....	....	....	1	1
Other Diseases of the Urinary System ..	....	....	....	....	....	....	1	....	2	1	....	2	6
9.—Diseases of Re-productive System.													
A.—*Of Organs of Generation.*													
Male Organs of Generation	....	....	....	....	....	....	....	....	....	....	....	....	......
Female Organs	....	....	1	....	....	1	....	....	2	....	....	2	6
B.—*Of Parturition.*													
Abortion, Miscarriage	....	....	....	....	....	....	....	....	....	....	....	....	......
Puerperal Convulsions	....	....	1	....	....	1	....	....	....	....	....	....	2
Placenta Prævia, Flooding	....	....	....	....	....	....	....	....	....	....	....	....	......
Other Accidents of Child Birth	....	....	2	....	....	3	....	....	....	....	....	4	9
10.—Diseases of Bones and Joints.													
Caries, Necrosis	....	....	1	....	....	1	....	....	....	....	1	1	4
Arthritis, Ostitis, Periostitis	....	....	1	....	....	....	....	....	....	....	....	....	1
Other Diseases of Bones and Joints ..	....	....	1	....	....	2	....	....	3	....	....	....	6
11.—Diseases of Integumentary System.													
Carbuncle	....	....	....	....	....	....	....	....	....	....	....	....	......
Phlegmon	....	....	....	....	....	....	....	....	....	....	....	....	......
Cellulitis	....	....	....	....	....	....	....	....	....	....	....	3	3
Other Diseases of Integumentary System ..	....	1	....	....	....	1	....	....	4	....	....	1	7
VII.—Violence.													
1.—Accident or Negligence.	....	....	....	....	....	....	....	....	....	....	....	....	......
Fracture and Contusion	....	....	12	....	....	8	....	2	4	....	....	8	34
Gunshot Wound	....	....	....	....	....	....	....	....	....	....	....	....	......
Cut, Stab	....	....	....	....	....	....	....	....	....	....	....	....	......
Burn and Scald	....	3	4	....	....	1	....	2	1	...	3	....	14
Poison	....	....	....	....	....	....	....	....	....	....	....	....	......
Drowning	....	....	4	....	....	3	....	....	....	....	....	....	7
Suffocation	....	....	....	1	1	....	1	....	....	3	2	....	8
Otherwise	....	....	....	....	....	....	....	....	....	....	....	2	2
2.—Homicide } Manslaughter	....	....	1	....	....	1	....	....	....	....	....	....	2
} Murder	1	....	....	....	....	....	....	....	....	....	....	....	1
3.—Suicide	....	....	2	....	....	2	....	....	....	....	....	2	6
VIII.—Deaths from Ill-defined Causes.													
Dropsy	....	....	2	1	....	....	....	....	2	1	....	....	6
Debility	27	....	2	23	....	....	31	2	....	22	....	1	108
Marasmus and Atrophy	12	8	1	20	6	....	15	4	....	10	2	1	79
Inanition	2	....	....	3	....	....	3	....	....	1	....	....	9
Sudden Death	....	....	1	....	....	....	....	....	1	....	....	1	3
Other causes not specified or ill-defined ..	....	3	3	5	3	6	....	....	1	....	....	5	26
TOTALS	225	384	449	178	175	356	192	123	323	145	83	344	2977

TABLE IV.

Shewing the number of Deaths at all ages in 1885, from certain groups of Diseases, and proportions to 1000 of Population and to 1000 Deaths from all causes; also, the number of Deaths of Infants under one year of age from other groups of Diseases, and proportions to 1000 Births and to 1000 Deaths from all causes under one year.

DIVISION I. (Adults.)	Total Deaths.	Deaths per 1000 of Population at all ages.	Deaths per 1000 of Total Deaths at all ages.
1.—Principal Zymotic Diseases	671	5·3	241·2
2.—Pulmonary Diseases	517	4·1	173·6
3.—Principal Tubercular Diseases	273	2·1	91·7

DIVISION II. (Infants under One Year.)	Total Deaths.	Deaths per 1000 of Births.	Deaths per 1000 of Total Deaths under One year.
4.—Wasting Diseases	248	52·4	335·2
5.—Convulsive Diseases	239	50·5	322·9

NOTES.

1.—Includes Smallpox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Typhus, Enteric (or Typhoid), and Simple Continued Fevers, and Diarrhœa.

2.—Includes Bronchitis, Pneumonia, Pleurisy, Emphysema, and Asthma.

3.—Includes Phthisis, Scrofula, Tuberculosis, Rickets, and Tabes.

4.—Includes Marasmus, Atrophy, Debility, Want of Breast Milk, and Premature Birth.

5.—Includes Hydrocephalus, Infantile Meningitis, Convulsions, and Teething.

TABLE V.

Shewing the Number of Deaths and Death Rates from the PRINCIPAL ZYMOTIC DISEASES, in the 10 Years, 1875 to 1884, and in the Year 1885.

DISEASES, ETC.	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	Annual Average Number of Deaths in 10 Years* 1875-84.	Proportion of Deaths to 1000 Deaths in 10 Years. 1875-84.	Total Deaths in 1885.	Proportion of Deaths to 1000 Deaths in 1885.
Smallpox	...	...	...	1	...	...	..	1	52	84	13·8	5·1	17	5·7
Measles	5	42	1	93	1	99	3	191	16	9	46·0	17·1	385	129·3
Scarlet Fever	61	133	138	186	243	312	145	168	38	46	147·0	54·7	106	35·6
Whooping Cough	8	9	15	14	10	3	8	18	18	13	11·6	4·3	12	4·0
Diphtheria	133	53	63	175	44	73	40	106	22	95	80·4	29·9	32	10·7
Fevers. Typhus	21	19	26	23	4	15	5	34	41	11	19·9	7·4	16	5·6
Enteric	21	34	35	30	23	27	22	42	33	13	28·0	10·4	16	5·6
Simple Continued or Ill-defined	3	9	6	2	3	7	5	11	4	4	5·4	2·0	4	1·3
Diarrhœa	141	146	82	204	73	203	90	129	85	150	130·3	48·4	82	27·5
Totals	393	445	366	728	401	739	318	700	309	425	482·4	179·7	670	225·0
Zymotic Death Rate	3·72	4·14	3·35	6·54	3·55	64·3	2·63	5·87	2·55	3·45	4·22	...	5·34	...

*If the decimal point be removed and the numbers read as whole numbers, the figures will then give the actual number of Deaths from each Disease for 10 Years.

TABLE VI.

SHEWING THE DEATHS

Registered in the Borough for the 52 Weeks ending January 2nd, 1886, the Districts in which they occurred, the Quarters in which they were registered, etc.

DISTRICTS.	Population.	First Quarter.		Second Quarter.		Third Quarter.		Fourth Quarter.		Totals.		Totals.	Rate per 1,000.	Rate per 1,000 in 1884.
		M	F	M	F	M	F	M	F	M	F			
Sunderland East	9,859	31	33	31	29	17	33	34	24	113	119	232	23·53	25·45
Sunderland West	6,348	22	24	26	27	23	24	19	24	90	99	189	29·77	30·24
Bishopwearmouth North	38,783	204	210	117	100	99	97	108	89	528	496	1024	26·40	27·36
Bishopwearmouth South	42,185	152	135	127	89	104	102	82	87	465	413	878	20·81	19·92
Monkwearmouth	28,098	137	110	84	79	72	67	57	48	350	304	654	23·27	21·04
Whole Borough	125,273	546	512	385	324	315	323	300	272	1546	1431	2977	23·76	23·44
TOTALS	125,273	1058		709		638		572		2977		2977	23·76	23·44

TABLE VII.

OCCUPATION OF PERSONS, 20 Years of Age and upwards, who died from the undermentioned Diseases during 1885.

(Given as accurately as the Returns allowed.)

Occupation.	Smallpox.	Typhoid Fever.	Typhus Fever.	Heart Disease.	Phthisis.	Pneumonia.	Apoplexy.	Paralysis.	Cancer.	Totals.
Accountant	...	...	...	1	...	...	...	...	...	1
Agents	...	...	...	...	1	...	1	...	...	2
Baker	...	...	...	...	1	...	...	...	...	1
Barman	...	...	...	...	1	...	...	...	...	1
Blacksmiths	...	...	...	6	3	1	1	...	...	11
Blockmakers	...	...	1	1	...	...	...	...	...	2
Boatbuilders	...	...	...	1	...	...	...	2	...	3
Bottlemakers	...	...	...	1	...	...	...	1	...	2
Bricklayer	...	...	...	1	...	...	...	...	...	1
Builder	...	...	...	...	...	...	...	1	...	1
Butchers	...	...	...	...	2	...	...	...	...	2
Cabinetmaker	...	...	...	...	...	...	1	...	...	1
Cartmen	...	...	...	2	3	2	1	...	...	8
Carpenter	...	...	...	1	...	...	...	...	...	1
Caulker	...	...	...	...	1	...	...	...	...	1
Cellarman	...	...	...	...	1	...	...	...	...	1
Chainmaker	...	...	...	...	1	...	...	...	...	1
Chemist	...	...	...	...	...	1	...	...	...	1
Clerks	...	...	...	3	1	...	...	1	1	6
Coal Exporter	...	...	...	...	..	1	...	...	...	1
Confectioners	...	1	..	...	1	...	...	...	...	2
Coopers	...	...	...	1	...	2	1	...	...	4
Customs Officers	...	...	...	...	2	...	...	...	...	2
Drapers	...	...	...	...	1	1	...	1	...	3
Draughtsman	...	...	...	...	...	1	...	...	...	1
Driller	1	...	..	...	...	..	...	...	...	1
Engine Builder	...	...	...	1	...	...	...	...	...	1
Engineers	...	...	1	...	...	1	...	...	1	3
Enginemen	...	...	...	...	1	1	...	...	...	2
Engine Driver	...	...	...	...	1	...	...	.	...	1
Farmers	...	...	...	...	...	...	...	1	1	2
File Cutter	...	...	...	...	1	...	...	...	...	1
Fireman	..	...	...	...	1	...	...	...	...	1
Fisherman	...	..	...	...	...	...	1	...	...	1
Fitters	...	...	...	...	1	1	...	...	...	2
Fruiterer	...	...	...	1	...	...	...	...	...	1
Gasfitter	...	...	1	...	...	...	...	...	...	1
Gate Keeper	...	...	...	...	...	...	1	...	...	1
Gentlemen	...	...	...	...	1	...	2	...	...	3
Glass Manufacturer	..	...	...	...	1	...	...	...	...	1
,, Makers	...	...	...	1	2	2	2	1	1	9
Grocers	...	...	...	3	1	...	...	...	1	5
Gunsmith	...	...	...	...	...	...	...	1	...	1
Hawkers	...	...	...	...	...	2	...	1	...	3
Carried forward	1	1	3	24	29	16	11	10	5	100

TABLE VII.—CONTINUED.

Occupation.	Smallpox.	Typhoid Fever.	Typhus Fever.	Heart Disease.	Phthisis.	Pneumonia.	Apoplexy.	Paralysis.	Cancer.	Totals.
Brought forward ...	1	1	3	24	29	16	11	10	5	100
Interpreter	...	...	...	1	...	...	...	...	...	1
Iron Manufacturers	...	...	..	1	...	...	...	...	1	2
Joiners	...	...	...	5	6	1	...	..	...	12
Labourers	1	1	...	11	10	1	5	4	2	35
Lamplighter	...	...	...	...	...	1	...	...	..	1
Masons	...	...	...	1	1	...	1	1	...	4
Master Mariners	2	...	...	1	...	2	1	2	...	8
Miller	...	...	...	...	1	...	...	...	...	1
Miners	1	...	...	1	3	...	..	...	...	5
Ministers	...	...	...	1	...	...	...	...	1	2
Moulder	...	...	...	1	...	...	...	...	...	1
Painters	...	...	...	2	2	...	1	...	.	5
Papermaker	...	...	...	...	1	...	...	...	...	1
Patternmaker	...	...	...	...	1	...	...	...	...	1
Pensioner	...	...	...	1	...	..	...	...	...	1
Pilots	...	...	...	1	..	...	1	1	...	3
Plumber	...	..	...	...	1	...	...	...	...	1
Pointsman	...	1	...	...	...	...	...	...	...	1
Policemen	...	1	...	...	2	1	..	...	...	4
Potter	...	...	...	...	1	...	...	...	...	1
Printer	...	...	...	...	...	...	1	...	...	1
Puddler	...	...	...	...	...	...	...	...	1	1
Rigger	...	...	...	1	...	...	..	...	...	1
Rivetters	...	...	...	...	2	...	1	...	..	3
Sailmaker	...	...	...	...	...	1	...	...	...	1
Sawyer	...	..	...	1	...	...	...	...	...	1
Screenman	...	...	..	1	...	...	...	...	...	1
Seamen	...	...	...	6	5	3	4	6	3	27
Shipbuilder	...	...	...	1	...	...	...	...	...	1
Shipowner	...	...	...	1	...	...	...	...	...	1
Shipwrights	...	1	...	12	...	2	2	2	...	19
Shoemakers	...	...	...	...	3	...	1	1	...	5
Solicitor	...	...	...	...	1	...	...	...	...	1
Stationers	...	...	..	...	...	1	1	...	...	2
Stone Masons	...	...	...	1	1	...	...	...	...	2
Storekeeper	...	...	...	1	...	...	...	...	...	1
Surgeons	...	1	...	1	...	...	...	...	...	2
Tailors	...	...	...	2	1	2	...	1	...	6
Teacher	...	...	...	...	1	...	...	...	...	1
Timekeeper	...	..	...	...	...	1	...	...	...	1
Tinsmith	...	...	...	...	1	...	...	...	..	1
Tobacco Spinners	...	...	...	...	1	1	...	...	...	2
Traveller	...	...	...	...	1	...	..	...	...	1
Trimmers	1	...	...	1	...	1	...	...	...	3
(Unknown Occupation)	...	...	...	1	1	...	...	1	...	3
Warehouseman	...	...	...	...	1	...	...	...	...	1
Watermeter Inspector	...	...	...	...	1	...	...	...	...	1
Waterman	...	...	...	...	1	...	...	...	...	1
Weighman	...	...	...	...	...	1	...	...	...	1
Wine Merchant	...	..	...	...	...	1	...	...	...	1
Totals	6	6	3	81	79	36	30	29	13	283
Females	6	2	5	71	74	39	25	16	36	274
Grand Totals	12	8	8	152	153	75	55	45	49	557

TABLE VIII.

STREETS in which ZYMOTIC DISEASES were known to have occurred in the year 1885.

SUNDERLAND EAST AND WEST DISTRICTS.

Names of Streets.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Measles.	Diphtheria.	Whooping Cough.	Diarrhœa.	Removed to Hospital.	Deaths.
Bank street	...	...	...	..	1	7	...	...	...	...	5
Bull open	...	...	...	...	...	2	...	...	...	...	...
Burleigh street	...	1	1	1	4	23	...	1	...	...	8
Chapel street	...	...	...	...	...	5	...	...	...	...	...
Church street	1	...	4	...	1	2	...	...	1	3	3
Commissioners' Quay	...	...	...	...	...	3	...	...	...	...	...
Coronation street	...	..	...	...	...	7	...	...	...	...	1
Covent Garden street	...	...	...	...	...	7	...	...	...	...	5
Cross place	...	...	...	...	...	3	...	...	...	...	1
Dunn's passage	...	...	...	...	...	1	...	...	...	...	...
Etterick place	...	..	.	...	...	2	...	...	...	...	...
Flag lane	..	...	...	...	...	...	...	...	1	...	1
Fitter's row	1	...	...	...	..	1	...	...	1	...	1
George street	1	3	...	...	2	4	...	...	1	2	4
Golden alley	...	...	4	...	...	...	...	...	...	4	...
Grey street	...	...	..	...	...	2	...	..	...	...	2
Hartley street	...	...	...	...	1	4	...	...	...	...	...
Hat case	...	...	...	...	...	1	...	...	...	...	1
Havelock street	1	...	...	...	...	...	...	...	...	1	...
High street East	...	1	1	...	5	2	...	...	1	1	3
Hodgskin street	...	...	8	...	...	1	...	1	...	8	2
Horn's lane	...	...	2	...	...	...	..	...	...	2	...
James Williams street	...	...	...	...	...	2	...	...	1	...	3
Kerr's yard	...	...	...	..	...	2	...	...	...	...	2
Lilburne street	...	...	...	...	..	1	...	...	...	...	...
Lombard street	...	...	...	..	1	3	1	1	...	...	1
Low street	...	1	...	...	...	3	...	1	1	...	3
Lucknow street	...	...	...	...	...	2	...	...	...	...	...
Maling's rigg	...	...	...	...	1	16	...	1	1	...	5
Market open	...	1	...	...	...	...	..	...	..	1	...
Maud's open	...	1	...	...	...	...	...	..	...	...	...
Maughan's buildings	...	...	...	...	...	1	...	...	...	...	...
Maud's lane	...	...	...	...	...	5	1	1	...	...	2
Minorca	...	...	5	..	...	1	...	...	...	5	...
Monkey's yard	...	3	...	..	...	1	...	...	...	2	...
Moorgate street	...	...	...	...	2	11	...	...	...	...	3
Nesham square	1	...	...	...	...	7	...	...	...	...	1
New Grey street	2	...	...	...	1	2	...	...	1	2	1
North Moor street	...	...	...	...	...	5	...	...	...	...	1
Northumberland place	...	...	1	1	...	3	...	...	1	1	2
Outram street	...	...	2	...	...	6	...	...	...	2	1

Names of Streets.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Measles.	Diphtheria.	Whooping Cough.	Diarrhœa.	Removed to Hospital.	Deaths.
Palin's passage	1	...	...	...	...	6	...	...	...	...	.
Phœnix square	..	...	...	...	...	1	...	...	...	..	...
Pottery bank	...	...	...	...	...	1	...	...	...	...	...
Prospect row	2	...	...	...	...	3	...	...	1	2	1
Queen street	...	1	...	...	...	1	...	...	...	1	1
Sans street	...	...	...	1	...	3	...	...	...	...	1
Silver street	...	...	...	...	1	14	...	...	3	...	5
South alley	...	...	...	...	...	4	...	...	...	...	1
Spring Garden lane	...	...	5	...	...	8	..	...	1	6	2
Stafford street	...	...	...	...	...	7	...	...	...	...	3
Stamp's lane	...	3	...	..	...	...	...	...	...	2	1
Stone yard	...	...	...	..	...	3	...	...	...	...	...
Thomas street	...	...	...	...	..	3	...	...	...	...	...
Union lane	...	...	...	...	...	2	...	...	...	...	1
Vine street	1	1	1	...	...	11	...	...	1	3	3
Walton place	1	...	...	...	...	4	...	...	...	2	...
Warren street	...	...	...	..	...	...	...	...	1	...	1

BISHOPWEARMOUTH NORTH DISTRICT.

Names of Streets.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Measles.	Diphtheria.	Whooping Cough.	Diarrhœa.	Removed to Hospital.	Deaths.
Ailesbury street	1	...	...	..	8	5	...	...	...	1	...
Aiskell street South	...	...	.	...	2	...	...	...	...	...	...
Albert street	...	...	...	...	...	1	...	...	...	...	1
Alderson street	..	...	...	...	6	1	2	2	...	...	3
Alfred street	...	...	...	...	...	4	...	...	...	...	3
Annie street	...	...	..	...	...	2	...	...	...	...	1
Armitage street	...	...	...	...	...	1	...	...	...	...	...
Australia street	...	...	...	...	...	1	...	...	...	...	1
Aylmer street	...	...	...	...	...	1	...	...	...	...	1
Ayre's quay road	...	...	...	...	...	3	...	...	...	...	3
Back Hopper street	...	...	...	...	5	10	...	...	...	...	1
Beach street	...	1	...	...	...	5	...	...	...	...	5
Bedford street	...	1	...	...	...	...	...	...	...	...	...
Bell street	...	...	...	...	...	1	...	...	1	..	2
Bottle Bank	...	...	...	...	...	6	...	...	..	...	2
Bridge street	3	...	...	...	...	...	...	...	...	2	...
Broxbourne terrace	...	...	...	...	...	6	...	...	...	...	...
Buxton terrace	...	...	...	...	...	2	...	...	...	...	1
Carrol street	...	...	...	...	...	...	1	...	...	...	...
Castle street	...	...	...	...	1	6	...	...	...	1	1

Names of Streets.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Measles.	Diphtheria.	Whooping Cough.	Diarrhœa.	Removed to Hospital.	Deaths.
Catherine street	..	...	...	...	...	1	...	...	...	...	..
Cecil street	...	...	...	1	..	4	...	...	1	...	2
Charles street	1	...	...	...	...	4	...	...	...	1	3
Chester House	...	...	...	..	...	1	...	...	...	...	1
,, street	...	...	...	...	...	1	..	...	...	...	...
,, terrace	...	...	...	...	4	...	...	...	1	...	1
,, road	...	...	...	...	2	...	...	...	...	...	...
,, street East	...	...	...	...	4	...	...	1	...	...	...
Church street West	...	...	...	...	.	2	...	...	...	...	2
Cirencester street..	...	...	...	...	...	2	...	...	...	...	...
Clanny street	1	...	...	...	1	2	...	...	2	2	3
Clark's Buildings	...	...	...	...	...	1	...	...	...	...	1
Cleft street	...	...	...	...	2	2	...	...	...	...	1
Coatsworth street	1	...	...	...	1	...	...	...	...	...	...
Collier row	...	...	...	...	1	...	...	...	...	...	1
Cornwall street	...	..	...	...	...	1	...	...	1	...	1
Crescent row	...	-	...	...	1	3	1	...	...	...	1
Cross street	...	...	...	...	...	1	...	..	...	...	...
Croft avenue	...	...	...	...	2	...	...	...	...	...	2
Crowtree road	...	...	...	...	...	2	...	...	...	...	...
Cornwall street	...	..	1	...	...	2	..	...	...	...	2
Cumberland street	1	..	...	...	...	4	...	...	. .	1	2
Dene terrace	...	...	...	...	2	1	...	...	...	...	1
Deptford terrace	...	...	...	..	2	1	...	...	...	...	2
,, road	...	...	...	...	2	5	..	...	...	..	1
Diamond Hall row	...	...	...	...	...	4	...	...	...	...	2
Dryborough street	...	...	...	...	...	6	...	...	...	...	4
Duke street	...	...	...	...	...	1	...	...	...	...	...
Dunning street	4	...	...	...	...	...	...	...	...	4	...
East Cross street	...	...	...	...	2	..	...	...	...	...	1
Eden street West	...	...	...	...	...	1	...	...	...	...	...
Elgin street	...	...	...	...	...	5	...	...	1	...	3
Enderby road	...	...	...	...	...	1	...	..	...	...	...
Farrington row	...	...	...	...	...	...	...	...	1	...	1
Ferry boat house	...	...	...	...	...	1	..	...	...	...	1
Fountaine road	1	...	...	...	...	..	...	...	...	1	...
Franklin street	...	...	...	...	1	2	...	...	1	...	1
Garden street	...	...	...	...	...	1	...	..	...	...	...
George street West	...	...	...	...	...	1	...	...	1	...	...
Gerald street	...	...	...	...	...	...	...	...	...	...	1
Gilsland street	...	...	...	...	..	3	1	...	...	...	...
Gill Bridge avenue	...	...	...	...	...	6	...	...	...	...	1
Glass street	...	...	...	...	1	1	...	...	...	..	1
Glebe Cleft villas	...	...	...	1	1	...	...	...	...	...	...
Grace terrace	...	...	..	...	1	...	...	...	...	...	1
Gray's buildings	...	...	...	...	...	6	...	...	...	...	1
Granville street	...	...	...	...	6	...	...	...	...	...	3
Grafton street	...	...	1	...	...	...	...	...	...	...	1
Green street	...	...	...	...	...	5	...	...	...	..	2
Greenhill house	...	...	...	...	...	2	...	...	...	...	...
Hanover place	...	...	1	...	1	7	...	...	...	...	2

TABLE VIII.—Continued.

Names of Streets.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Measles.	Diphtheria.	Whooping Cough.	Diarrhœa.	Removed to Hospital.	Deaths.
Harlow street	...	...	...	...	8	...	...	2	...	...	1
Harrison street	...	...	...	...	1	10	...	...	...	...	6
Hawthorn street	...	...	...	...	...	1	...	...	...	...	...
Hedley street	...	1	...	...	1	3	...	...	...	1	4
High street West	...	...	...	...	...	6	...	...	...	...	...
Hillfield	...	...	...	...	...	5	...	...	...	...	2
Hind street	...	...	...	...	...	1	...	...	...	...	...
Hope street	3	...	..	...	7	15	...	...	...	4	5
Hopper street	...	...	...	...	1	8	...	...	...	...	2
Hort street	...	...	...	...	1	1	...	...	...	...	1
Houghton street	...	...	...	...	1	...	...	...	...	...	...
Hylton road	...	...	1	...	...	...	...	...	...	...	...
,, street	...	...	...	...	...	2	...	...	...	...	...
Infirmary row	...	...	...	...	...	4	...	...	...	...	1
Jobling street	...	...	...	...	2	...	...	...	...	...	...
Johnson street	...	...	...	...	7	30	1	...	...	...	16
Johnson terrace	...	...	...	...	...	2	...	...	...	...	2
Kendal street	...	...	...	...	...	1	...	...	...	...	1
King's road	...	...	1	...	1	3	...	...	...	1	4
Lambton street	...	1	...	...	1	4	1	...	...	1	1
Lime street	...	...	...	...	...	2	...	...	...	...	2
Lister street	...	...	...	...	...	1	...	...	..	...	...
Livingstone road	...	...	...	...	...	4	...	...	...	...	1
Lumley street	..	...	...	...	1	7	...	...	...	...	...
Marlborough street	2	1	...	...	...	2	...	...	...	1	1
Malton's open	...	...	...	...	...	2	...	...	...	...	...
Maple street	..	...	1	...	1	2	...	...	...	1	1
McNay's buildings	...	...	...	...	1	...	...	...	...	...	...
Merle terrace	...	...	...	...	1	...	...	...	...	...	1
Mill street	...	...	..	...	...	2	...	...	...	...	1
Milburn street	...	...	...	...	3	6	...	...	1	...	4
Naylor street	...	...	...	...	...	2	...	...	...	...	2
North Hedley street	...	1	...	...	...	0	...	...	...	...	1
North Milburn street	...	...	1	...	2	1	...	...	2	...	2
Numbers Garth	...	...	...	...	...	6	...	1	...	...	2
Offerton street	2	...	...	...	1	...	...	...	...	2	...
Ogden street	...	1	...	...	1	7	1	...	...	...	7
Old Garrison	...	...	...	...	...	3	...	...	...	...	3
Palmer street	...	...	...	...	1	6	...	...	...	...	1
Paley street	...	...	...	...	1	...	...	...	...	...	...
Pallion road	...	..	...	...	...	..	...	...	1	...	1
Panns	...	...	...	...	1	5	...	...	...	1	1
Panns Ferry	...	...	...	...	...	1	...	...	...	...	...
Paxton terrace	...	...	...	...	...	1	...	...	...	...	...
Peacock street	...	...	...	...	6	11	...	...	...	...	7
Pensher street	..	...	...	...	1	...	...	...	...	...	...
Percival street	...	...	..	...	...	3	...	...	...	...	...
Picard street	...	...	...	...	...	...	...	...	1	...	1
Picton street	...	2	...	..	...	3	...	...	...	...	2
Potts street	...	...	...	...	4	..	1	...	...	...	..
Priestly crescent	...	...	...	...	...	...	1	...	...	...	...

TABLE VIII.—Continued.

Names of Streets.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Measles.	Diphtheria.	Whooping Cough.	Diarrhœa.	Removed to Hospital.	Deaths.
Queen street West	4	...	...	...	4	1	...	...	...	5	1
Rainton street	...	...	...	...	...	2	...	...	...	...	1
Ravensworth street	...	...	1	...	2	6	...	...	..	...	6
Retreat, The	...	...	...	...	3	...	...	...	...	...	...
Rokeby street	...	...	...	...	...	2	...	...	...	...	...
Rosedale street	...	..	...	...	2	1	1	...	...	...	4
Rutland street	...	1	...	...	3	3	..	...	...	...	1
Simpson street	...	...	...	...	...	5	...	...	...	...	2
Sorley street	...	...	...	...	1	...	...	...	...	...	...
Stanley street	1	...	...	...	2	2	...	...	...	1	1
Stanhope street	...	...	...	...	...	3	...	...	...	...	...
Stratfield street	...	...	1	...	1	...	...	...	...	...	1
St. Mark's road	...	...	...	...	1	1	...	...	...	...	2
St. Luke's road	...	...	...	...	2	...	1	...	...	...	1
St. Stephen's Vicarage	...	...	...	...	...	1	...	...	...	..	...
St. Cuthbert's terrace	..	...	...	...	6	2	...	...	...	...	1
Sunderland street	...	...	...	...	2	1	...	...	...	...	1
Swan's court	...	...	...	...	...	3	...	...	...	1	2
Swinbank street	..	...	...	...	...	4	...	...	..	...	2
Sydenham place	...	..	...	...	...	1	...	...	...	...	1
Thornton place	...	1	...	...	...	...	...	...	...	...	1
Trewhit's crescent	2	...	...	1	...	...	...	...	...	2	1
Trimdon street	...	...	...	...	2	11	...	...	...	...	5
Vicarage terrace	...	...	...	...	1	...	...	...	...	...	...
Walker street	...	...	...	...	...	6	...	...	...	...	3
Washington street	...	...	1	...	2	...	...	...	...	...	1
Water street	...	...	...	...	...	2	...	...	...	..	1
Waterworks road	...	...	...	...	...	7	...	...	...	...	1
Watson street	...	...	...	...	2	...	...	...	...	..	...
Wellington lane	...	...	...	...	...	3	...	...	1	...	4
,, road	...	...	...	...	...	3	...	...	...	...	1
Westbury street	...	...	...	1	1	...	...	...	...	..	...
West Wear street	...	3	...	...	...	2	...	...	...	...	3
Westbourne road	1	...	...	...	1	2	...	...	...	1	...
Western hill	...	...	...	...	...	1	...	...	...	...	...
Wharncliffe street	1	...	..	...	..	...	...	...	...	1	...
William street	...	2	...	...	3	7	...	...	...	...	...
Williams street	...	...	...	...	2	2	...	1	...	1	4
Wilson street	...	...	...	...	1	4	...	...	...	1	...
Willow Pond terrace	...	...	...	...	...	...	1	...	...	..	1
Wood street	...	...	...	...	...	2	...	...	...	...	...
Woodbine terrace	...	...	...	...	...	4	...	...	...	...	1
Workhouse	...	...	1	...	...	...	...	...	...	...	...

BISHOPWEARMOUTH SOUTH DISTRICT.

Names of Streets.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Measles.	Diphtheria.	Whooping Cough.	Diarrhœa.	Removed to Hospital.	Deaths.
Addison street	1	...	1	...	6	...	...	...	1	1	1
Adelaide place	...	..	.	...	...	1	...	...	...	1	...
Alice street	...	...	...	...	1	...	...	...	...	...	1
Amberley street	...	...	...	...	...	4	...	...	1	...	1
Ashbrooke road	...	...	...	...	1	..	...	...	...	...	...
Athol road	...	...	...	...	...	2	...	...	...	...	...
Aubrey terrace	...	...	...	...	1	...	...	...	...	..	...
Avenue terrace	...	...	..	...	...	...	...	1	...	...	1
Avon street	4	...	...	...	...	1	...	...	...	2	...
Bamborough street	4	...	...	...	...	...	...	...	...	4	...
Belle Vue Park	...	...	...	...	3	...	...	...	...	...	...
,, ,, Crescent	...	...	...	...	...	3	...	...	...	...	...
Blandford street	...	1	...	..	...	1	...	...	...	...	...
Borough road	...	..	...	...	...	3	...	...	..	...	1
Boughton street	...	...	...	...	2	1	...	...	...	...	...
Bramwell street	...	1	...	...	2	1	...	...	...	...	2
Briery Vale road	...	...	...	...	3	2	...	...	...	...	1
Brougham street	...	...	...	...	6	8	1	1	...	...	3
Burlington road	...	...	...	...	...	2	...	...	...	...	...
Cairo street	...	...	...	...	2	...	...	...	1	...	2
Cambridge terrace	...	...	...	...	1	...	...	...	...	...	...
Carter street	...	...	...	...	1	3	...	...	...	...	1
Chester road	...	...	...	...	1	...	...	...	...	...	...
Christopher street	...	...	...	...	2	1	...	...	...	...	2
Church lane	...	...	...	...	...	...	...	...	1	...	1
Clark terrace	1	...	...	.	3	1	...	...	...	1	2
Claremont terrace	...	...	...	...	1	...	..	...	...	...	...
Clementina street	..	...	1	...	7	...	...	...	...	...	4
Cliff terrace	...	...	...	...	...	1	...	...	...	...	...
Clifton Villas	...	...	...	...	1	...	...	...	...	...	1
Clyde street	1	...	...	...	1	5	...	...	..	1	3
Commercial road	2	...	..	...	1	1	...	...	1	2	1
Coronation street	...	...	...	...	..	1	...	...	1	...	2
Cousin street	...	...	...	...	2	3	...	...	...	...	...
Crow street	...	...	...	...	...	2	...	...	...	...	2
Cumberland terrace	...	...	...	...	1	...	...	...	...	...	1
D'Arcy terrace	...	...	...	...	...	1	...	...	...	...	...
East street	4	...	1	...	...	7	...	1	...	3	3
Eastern street	...	..	...	...	...	1	...	...	...	...	1
Eden street East	...	...	...	...	1	...	...	...	...	...	...
Elms (West)	...	...	...	...	5	...	...	...	...	...	1
Emma street	...	...	...	...	...	2	...	...	...	...	...
Ethel street	...	...	...	...	...	1	...	...	...	...	1
Fawcett street	...	...	...	...	...	5	...	...	...	...	1
Fenwick street	...	...	...	...	1	4	...	...	...	..	2
Fleet street	...	..	...	...	...	1	...	...	...	...	1
Ford Street	...	...	...	...	1	2	...	...	...	...	1
Fowler terrace	...	...	...	...	1	...	...	...	...	...	...
Foyle street	...	...	...	...	...	1	...	...	...	...	...

Names of Streets.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Measles.	Diphtheria.	Whooping Cough.	Diarrhœa.	Removed to Hospital.	Deaths.
Frederick street	...	1	...	1	2	...	...	...	...	...	1
Garrick street	...	...	...	...	...	2	...	...	...	...	...
Grace terrace	...	...	...	...	2	...	...	...	...	...	...
Green terrace	...	...	...	...	...	...	1	..	...	...	1
Harrogate street	...	..	...	...	3	1	...	..	...	...	...
Harold street	1	...	...	...	...	...	...	..	...	...	...
Hedworth terrace	...	...	...	...	...	1	...	...	...	...	1
Hendon road	...	...	...	..	7	4	...	...	...	...	7
" street	1	...	1	...	1	13	...	1	...	...	4
Henry street	...	...	...	...	4	7	...	...	...	...	...
" " East	...	...	...	...	4	3	...	...	...	...	3
Herrington street	...	...	1	...	..	4	...	...	...	1	1
High street West	...	1	...	...	...	3	...	...	1	...	3
Howick street	...	...	1	...	...	...	...	...	...	...	1
Hudson road	2	...	...	...	...	...	...	...	1	2	1
Infirmary	...	...	...	...	3	...	...	...	...	1	...
John street	...	1	...	...	1	2	...	...	...	...	...
King street	1	...	...	...	...	1	...	...	2	1	2
Lawrence street	...	1	...	...	2	6	...	...	...	...	4
Lawton street	...	1	...	...	...	...	...	...	1	.	1
Lilburne street	...	...	1	...	4	5	...	...	1	1	5
Lodge terrace	...	1	...	...	...	4	..	...	...	...	..
Mainsforth terrace	...	...	...	...	6	2	...	...	...	...	2
Marion street	...	...	2	...	...	...	...	...	...	...	...
Mary street	...	...	...	...	1	1	...	...	1	...	1
Middle street	1	...	...	...	...	3	...	...	...	1	1
Moor street	...	...	...	...	...	1	...	1	...	...	1
" terrace	2	...	...	...	...	...	...	...	...	1	...
Mordey street	...	...	...	...	1	1	...	...	...	...	...
Mowbray road	...	...	...	...	...	5	...	...	...	...	2
Murton street	...	...	...	...	1	1	...	1	...	..	1
Nelson street	...	...	...	...	2	...	...	...	...	...	...
Nicholson street	...	...	...	...	1	1	...	...	...	...	1
Nile street	1	...	...	..	...	...	...	...	...	1	...
Noble street	...	...	...	...	4	...	...	...	...	...	1
Noble's bank road	...	1	...	...	...	...	...	...	...	1	...
Norfolk street	...	...	...	...	...	1	...	...	...	...	1
Norman street	...	...	2	...	12	5	...	...	1	...	6
Northumberland street	...	...	...	...	8	9	...	...	...	...	2
Northcote avenue	...	...	...	...	1	...	...	...	...	...	...
North Durham street	1	...	...	...	1	3	...	...	...	1	2
Old Mill road	...	...	...	...	1	1	...	...	..	...	1
Olive street	...	1	...	...	...	...	...	...	...	1	...
Page street	...	...	...	...	1	4	...	...	...	...	1
Parade	1	...	...	...	3	...	...	...	...	1	2
Peel street	1	...	...	...	...	1	...	...	...	1	1
Pemberton street	2	...	6	...	...	3	...	...	1	8	2
Railway street	...	...	...	...	...	1	...	...	...	...	...
Randolph street	...	...	...	...	2	...	...	1	...	...	2
Ridley terrace	...	...	...	...	2	...	...	...	...	...	1
Robinson street	1	...	...	...	1	2	...	...	...	...	1

TABLE VIII.—CONTINUED.

Names of Streets.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Measles.	Diphtheria.	Whooping Cough.	Diarrhœa.	Removed to Hospital.	Deaths.
Robinson terrace	...	...	...	...	6	9	...	1	..	...	10
Salem street	...	..	...	...	...	1	...	...	...	...	1
„ hill	...	...	...	...	1	...	...	...	...	..	...
„ road	...	...	...	...	...	1	...	...	...	...	1
Sans street	1	...	...	...	...	2	...	...	...	1	2
Shakespeare terrace	...	...	...	...	1	...	...	...	...	...	...
Short street	...	...	1	...	...	...	...	...	...	1	...
South Durham street	...	...	...	1	1	4	...	...	1	...	2
„ Moor street	...	...	...	..	2	2	...	...	...	...	2
„ Dock	...	1	...	...	...	...	...	...	...	1	...
Spark terrace	...	...	...	...	1	...	...	...	...	...	...
Spelter Works road	...	...	1	...	...	...	...	...	...	...	1
St. Thomas street	...	...	...	...	1	...	...	...	...	...	...
St. George's square	...	1	...	...	..	...	...	...	...	...	1
St. Bede's terrace	...	...	...	...	1	...	...	...	...	...	...
St. Vincent street	...	...	...	...	...	...	...	...	1	...	1
Suffolk street	...	...	...	...	5	1	...	...	...	...	1
Sussex street	1	...	...	...	...	2	1	...	...	1	2
Tatham street	...	...	...	...	1	...	...	...	...	1	...
Tavistock place	...	...	..	...	2	...	...	...	...	...	...
Tees street	...	...	1	...	8	7	...	...	...	1	6
The Cedars	...	...	..	...	...	...	...	...	1	...	1
Thompson street	...	...	...	...	...	8	...	...	..	...	3
Thornhill park	...	...	...	...	1	...	...	...	...	...	...
Tower street	...	...	...	...	4	8	...	...	...	...	1
Tyne street	2	...	...	...	5	6	...	1	...	2	3
Vane terrace	...	...	...	...	...	1	...	...	...	...	1
Villette road	...	...	...	...	...	...	...	1	...	...	1
Villiers street	1	1	...	...	1	6	...	...	...	...	4
Wall street	...	...	...	...	2	1	...	...	...	...	1
Ward street	...	...	...	...	2	3	...	...	...	...	2
Walworth street	1	...	...	...	...	5	...	...	...	1	2
Wear street	3	...	...	...	4	3	...	..	...	2	2
Whitehouse road	...	...	...	...	...	1	...	...	...	.	...
Winchester terrace	...	...	1	...	2	1	...	...	...	...	...
Woodbine street	...	..	...	...	2	7	...	...	1	...	6
Zion street	2	...	2	...	...	1	...	...	...	3	...

TABLE VIII.—CONTINUED.

MONKWEARMOUTH DISTRICT.

Names of Streets.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Measles.	Diphtheria.	Whooping Cough.	Diarrhœa.	Removed to Hospital.	Deaths.
Albany street	...	...	...	...	7	4	..	...	...	...	2
Back Barclay street	...	...	...	...	...	1	...	...	...	...	1
Back stables	...	...	..	...	...	9	...	...	...	...	2
Barclay street	...	1	1	...	2	1	...	...	...	...	4
Barrington street	...	1	...	...	6	6	1	...	1	..	6
Bloomfield street	...	1	...	...	1	5	...	...	...	...	2
Bond street	2	...	...	...	1	1	...	...	...	...	1
Bonner's field	...	...	...	...	1	10	...	...	...	...	2
Brandling street	...	1	...	...	2	8	1	...	2	...	4
Brewery bank	...	...	...	...	...	...	1	...	...	...	1
Bright street	1	...	...	...	...	1	...	..	1	1	3
Brooke street	1	1	...	...	1	14	...	...	1	1	4
Byron street	...	...	...	...	4	4	...	...	...	...	...
Chilton street	...	...	...	...	...	7	1	...	...	...	3
Church street North	...	1	...	...	1	2	1	...	...	...	3
Colliery square	...	...	...	...	1	...	...	...	...	...	...
Cooper street	...	...	...	...	3	...	...	...	...	...	...
Dame Dorothy street	...	...	...	...	4	6	1	1	...	...	5
Devonshire street	...	...	...	...	4	3	...	...	...	...	1
Dixon's square	...	1	...	...	2	5	...	...	...	...	1
Dock street	...	...	...	...	..	6	...	...	...	...	1
,, East	...	...	...	...	...	3	...	5	...	...	3
Duke street North	...	...	1	...	...	2	...	...	...	...	...
Dundas street	3	...	...	...	6	...	1	..	1	1	5
Easington street	...	...	...	...	3	...	...	...	...	...	...
Edmundson street	...	...	...	...	...	7	...	...	1	...	2
Eglinton street	...	...	...	...	11	17	1	1	...	...	7
Ellerslie terrace	...	...	...	...	1	...	...	...	...	...	1
Empress street	...	...	...	...	2	1	...	...	...	...	...
Finsbury street	1	1	...	...	1	3	...	...	...	2	2
Folly bank	...	...	...	...	..	1	...	...	...	...	1
Foster street	...	...	...	...	...	1	...	...	.	...	...
Franklin street	...	...	..	...	...	1	...	...	...	...	...
Fulwell road	...	...	...	...	2	7	...	...	...	...	1
Garden court	1	...	...	...	...	1	...	1	...	1	...
George street North	...	...	...	...	...	1	..	...	...	...	...
Gladstone street	...	...	1	...	7	9	...	..	...	...	4
Gosforth street	...	..	...	...	2	10	...	2	...	...	3
Hallgarth square	...	1	...	...	...	2	...	..	..	...	2
Hamilton street	2	1	..	...	...	4	...	...	...	3	1
Hardwick street	2	1	...	...	1	10	...	...	...	3	3
Hartington street	...	...	...	...	1	5	...	...	...	...	3
Hedworth street	2	...	...	...	1	10	...	...	1	2	4
Hodgson's buildings	...	...	...	...	3	18	..	..	...	...	1
Hood street	1	...	...	...	2	16	...	...	2	...	3
Howard street	...	...	...	...	...	2	...	...	...	...	...
Howick street	...	...	1	...	1	3	...	...	1	...	3
Howick place	...	...	...	...	...	2	...	..	...	...	2
Huddleston street	1	...	...	...	4	3	...	...	...	...	2

TABLE VIII.—CONTINUED.

Names of Streets.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Measles.	Diphtheria.	Whooping Cough.	Diarrhœa.	Removed to Hospital.	Deaths.
Huntley place	...	...	...	...	...	5	.	...	...	...	2
Liddle street..	...	...	...	...	...	3	...	...	..	...	...
,, terrace	...	...	...	...	3	...	..	...	1	...	1
Long row	1	...	..	...	2	2	...	...	...	1	...
Look Out hill	1	1	...	..	...	1	...	...	...	1	1
Mill row	...	...	...	...	...	1	...	...	...	...	...
Millum terrace	...	..	..	...	1	4	...	...	...	...	...
Monk street	..	..	...	...	1	3	...	...	...	...	1
Mulgrave street	...	...	...	...	2	8	..	...	1	...	2
Normanby street	...	...	...	...	...	..	...	1	...	...	1
North street	...	...	...	...	2	3	...	...	1	...	2
,, quay	...	...	...	...	1	...	...	...	...	...	1
,, Bridge street	...	1	...	...	1	3	...	...	...	1	2
Osborne street	...	1	...	...	1	14	1	3	...	...	1
Pilgrim street	...	...	...	...	1	8	...	...	...	...	2
Portobello lane	5	...	...	...	...	1	...	...	...	5	..
Richmond street	...	...	...	...	...	1	...	...	...	...	...
Ripon street	..	...	...	...	1	...	...	1	1	..	2
Roker avenue	...	...	1	...	5	9	...	...	...	...	6
Ross street	1	...	...	...	1	9	...	...	...	2	...
Rothsay street	3	...	...	...	3	11	...	...	...	2	...
Selbourne street	...	...	...	...	...	1	...	...	...	...	1
Society lane	...	...	...	...	...	4	...	...	...	...	2
Southwick road	3	...	...	...	..	4	...	...	...	3	...
Stansfield street	...	...	...	...	...	...	...	...	1	...	1
Stobart street	..	...	...	...	1	14	...	1	1	...	3
The Grange	...	..	...	...	...	1	...	...	...	...	...
Thomas street North	...	1	...	...	3	2	1	...	...	...	4
Topliffe row	...	...	...	...	...	2	...	...	...	...	...
Union place	...	...	...	...	3	...	...	...	1	...	2
Victor street	2	1	1	...	2	16	...	2	1	1	10
Victoria cottages	...	...	...	...	...	2	...	...	...	...	1
Wallace street	...	...	..	...	1	2	...	...	...	...	...
Wardell terrace	...	...	...	...	1	...	...	...	...	...	...
Warwick street	1	...	...	...	1	4	...	...	..	...	1
Waterloo place	...	...	...	...	...	3	...	...	...	...	1
,, street	...	...	...	...	1	...	...	...	1	...	2
Wayman street	...	...	...	1	1	15	...	...	...	...	2
Whickham street	...	...	...	...	...	5	...	...	...	...	1
Whitburn street	...	...	...	...	2	4	...	...	...	...	1
Williamson street	...	...	..	..	...	5	...	...	...	...	1
,, terrace	...	2	...	...	1	...	...	...	...	1	1
Wilson street	3	...	...	..	...	2	...	...	..	3	1
Woodger terrace	3	...	...	...	1	...	...	...	1	3	1
Wreath quay road	1	...	...	...	...	6	..	...	...	1	2
York street	1	...	..	...	...	...	...	...	...	1	...
Zetland street	...	...	...	...	...	9	...	...	1	...	4

TABLE IX.

Shewing the BIRTHS registered in the Borough for the 52 weeks ending January 2nd, 1886, the Districts in which they occurred, the Quarters in which they were registered, &c.

DISTRICTS.	Population.	First Quarter.		Second Quarter.		Third Quarter.		Fourth Quarter.		Totals.		Total.	Rate per 1,000.	Rate per 1,000 in 1884.
		M	F	M	F	M	F	M	F	M	F			
Sunderland East	9,859	42	38	50	49	37	45	37	45	166	177	343	34·79	37·73
Sunderland West	6,348	35	34	34	24	32	26	37	25	138	109	247	38·91	44·10
Bishopwearmouth North.........	38,783	216	185	212	183	196	182	184	162	808	712	1520	39·19	45·31
Bishopwearmouth South.........	42,185	210	198	206	198	181	194	178	157	775	747	1522	36·07	39·29
Monkwearmouth	28,098	138	144	159	139	144	116	128	125	569	524	1093	38·89	48·56
Whole Borough.....................	125,273	641	599	661	593	590	543	564	514	2456	2269	4725	37·71	43·35
TOTALS..........	125,273	1240		1254		1133		1078		4725		4725	37·71	43·35

TABLE X.

Shewing the STATE of the VACCINATION in the entire Districts of the Sunderland Union, for the Year ending December, 1885.

(AS FURNISHED BY MR. J. THOMPSON, VACCINATION OFFICER).

Registration Districts.	Births Registered.	Vaccinated by Public Vaccinator.	Vaccinated by Private Medical Practitioners	Total Vaccinated.	Postponed by Medical Authority.	Died previous to Vaccination.	Removal into other Unions.	In Abeyance.
Sunderland East..............	347	118	187	305	1	33	8	...
Sunderland West	247	150	57	207	2	26	12	...
Bishopwearmouth South	1967	755	943	1698-4*	24	184	53	4
Bishopwearmouth North	1668	830	609	1439-4*	27	139	57	2
Monkwearmouth......................... ...	1488	637	655	1292	12	123	60	1
Totals	5717	2490	2451	4941-8*	66	505	190	7

* Denotes insusceptibility

TABLE XI.

Shewing the DEATHS and the DEATH-RATES in Sunderland from 1720 to 1885.

Years.	Deaths.	Death-rate.
1720	122	
1730	235	
1740	219	
1750	266	
1760	313	
1770	440	
1780	422	
1790	394	
1800	445	
1810	400	32·5
1821	408	27·7
1831	479	28·0
1841	1,512	26·8
1846	1,774	31·6
1851	1,795	equal to an average rate of 26·0
1852	1,919	
1853	2,069	
1854	2,209	
1855	1,909	
1856	2,130	
1857	2,146	
1858	2,040	
1859	2,040	
1860	1,820	
1861	1,879	20·4
1862	2,152	23·0
1863	2,818	29·3
1864	2,264	24·1
1865	2,396	23·3
1866	2,556	28·4
1867	2,145	23·4
1868	2,481	26·6
1869	2,135	22·5
1870	2,026	20·9
1871	3,966	36·4
1872	2,702	26·9
1873	2,341	22 9
1874	2,455	23·4
1875	2,385	22·5
1876	2,262	21·6
1877	2,487	22·7
1878	2,864	25·8
1879	2,507	22·2
1880	2,901	25·2
1881	2,436	20·8
1882	3,146	26·4
1883	2,961	24·4
1884	2,888	23·4
1885	**2,977**	**23·7**

TABLE XII.

Shewing the cases of Infectious Diseases in which houses were visited by the Medical Officer of Health and Sanitary Inspectors.

Diseases.	No. of Cases.
Smallpox	126
Typhus Fever	74
Enteric „	62
Simple Continued Fever	9
Scarlet Fever	502
Measles	1310
Diphtheria	27
Whooping Cough	34
Diarrhœa	82
Croup	23
Puerperal Fever	13
Total	2262

TABLE XIII.

Shewing the cases in which it was found necessary to adopt Magisterial proceedings.

Particulars of Complaint.	No. of Cases.	How disposed of.	Penalties imposed. £ s. d.
Ashpits, Privies, Water-closets, Spouts, and Premises, in such a state as to be a nuisance and injurious to health	14	12 withdrawn on payment of costs, 2 ordered to abate the nuisance	
Exposing Unsound Food for sale	2	1 fined £5 and costs, and 1 20/- and costs	6 0 0
Common Lodging House Act	2	1 fined 10/- and costs, and 1 5/- and costs	0 15 0
Obstructing the Inspector in the Discharge of his Duty	2	2 fined 2/6 and costs	0 5 0
Total	20	Total	£7 0 0

TABLE XIV.

Shewing the amount of Bad Meat and other unwholesome Articles of Food seized and destroyed during 1885.

Class of Food Seized.	No. of Seizures.	Quantity seized and destroyed.	No. of persons summoned.	No. of convictions.	Amount of penalties imposed
Beef	6	2,492 lbs.	...	...	...
Pork	2	196 lbs.	...	...	...
Rabbits	1	5	...	...	...
Haddocks	3	6 barrels.	...	...	..
Herrings	2	4,000	..	...	...
Mackerel	1	8 boxes.	1	1	£5 5 0 and costs
Oysters	1	750	..	...	...
Totals	16	...	1	1	£5 5 0 and costs

TABLE XV.

Shewing the Notices Served.

To repair defective House Drains, Roofs, Water-closets, Ashpits, &c.	1,026
To Whitewash Premises, Cleanse Rooms, Yards, Out-houses, &c.	3,722
Defective Spouts	211
To abate Overcrowding	14
To Supply Water to Houses	25
To Cleanse and Disinfect Houses wherein Zymotic Diseases had occurred	1,144
Total	6,142

TABLE XVI.

Shewing the Nuisances reported and notices served by Sanitary Inspectors during the year 1885.

Number of nuisances reported	3,155
Nuisances abated without formal notice	459
Nuisances abated after notice without proceedings	2,701
Nuisances abated after proceedings had been taken	14
Number of formal notices given	6,142
Complaints made at Office, and attended to by Inspectors	269
Order of Magistrates to abate nuisance	2

TABLE XVII.

Shewing the Articles destroyed, and Bedding, Clothing, and Houses Disinfected.

Articles Disinfected.	No.	Articles burned.	Houses Fumigated and Disinfected.	No.
Feather Beds	120	6	Houses Fumigated and Disinfected by Inspectors ...	840
Mattresses	162	9		
Blankets	43	...		
Pillows	201	1		
Sheets	34	1		
Quilts	62	...		
Flock Beds	2	...		
Curtains	9	...		
Shawls	3	...		
Suits	10	1		
Carpets	22	...		
Sundries	88	14		
Total	756	32	Total	840

TABLE XVIII.

Shewing the Ashpits Cleansed by Corporation.

Applications at the Office	4,461	Number of Loads removed during 1885	55,820
		Ash-closets and Scuttles	17,842
Total number of Ashpits cleansed	82,689	Total Loads	73,662

Table of Meteorological Observations from January to March, 1885.

JANUARY.						FEBRUARY.						MARCH.					
		Thermometer.						Thermometer.						Thermometer.			
Date.	Barometer.	Highest	Lowest	Direction of Wind.	Rainfall.	Date.	Barometer.	Highest	Lowest	Direction of Wind.	Rainfall.	Date.	Barometer.	Highest	Lowest	Direction of Wind	Rainfall.
1	30·450	38·0	31·0	S	·00	1	28.942	45·0	37·0	SW	·01	1	30·203	42·0	32·0	NW	·00
2	30·250	39·0	32·0	S	·00	2	29·066	49·0	37·0	SSE	·08	2	30·101	44·0	35·0	S	·00
3	30·050	37·0	33·0	S	·00	3	29·010	46·0	39·0	SW	·00	3	29·687	46·0	32·0	S	·27
4	30·050	46·0	30·0	SE	·00	4	29·333	41·0	30·0	SW	·01	4	29·389	41·0	33·0	SSE	·45
5	29·850	47·0	34·0	SW	·00	5	29·121	42·0	32 0	SW	·00	5	29·527	40·0	30·0	SW	·07
6	30·050	44·0	31·0	SW	·00	6	29·573	45·0	35·0	SSW	·02	6	29·495	42·0	30·0	E	·00
7	30·250	43·0	33·0	SW	·00	7	29·363	48·0	33·0	SSW	·00	7	29·888	45·0	31·0	W	·00
8	29·600	41·0	36·0	SSW	·01	8	29·323	52·0	35·0	SW	·47	8	29·850	44.0	36·0	NNE	·07
9	29·625	39·0	33·0	SW	·03	9	29·330	43·0	34·0	WNW	·04	9	30·148	39·0	32·0	NNE	·05
10	29·025	44·0	35·0	SSW	·14	10	29·916	49·0	36·0	W	·01	10	30·401	42·0	34·0	NNE	·00
11	28·750	49·0	36·0	NNE	·40	11	29·795	50·0	36·0	SW	·00	11	30·485	47·0	33·0	W	·00
12	29·650	38·0	29·0	NE	·14	12	29·855	53·0	42·0	WSW	·01	12	30·558	49·0	35·0	W	·00
13	29·773	38·0	31·0	NE	·22	13	29·783	49·0	46·0	WSW	·00	13	30·583	50·0	38·0	NNW	·00
14	29·870	39·0	31·0	NE	·11	14	29·609	42·0	40·9	NW	·00	14	30·541	46·0	30·0	WNW	·00
15	30·200	40·0	34·0	NE	·01	15	29·541	39·0	32·0	SW	·09	15	30·439	52·0	36·0	W	·00
16	30·300	40·0	34·0	ENE	·05	16	29·351	39·0	31·0	WNW	·00	16	30·310	49·0	39·0	WNW	·00
17	30·250	41·0	37·0	ESE	·06	17	29·383	39·0	33·0	NNW	·00	17	29·765	49·0	35·0	WSW	·00
18	30·150	41·0	37·0	ESE	·00	18	29·440	41·0	29·0	WSW	·00	18	29·503	43·0	35·0	WNW	·26
19	30·275	38·0	35·0	S	·00	19	29·740	39·0	29·0	WNW	·00	19	30·020	41·0	31·0	NW	·02
20	30·161	40·0	31·0	N	·00	20	29·848	40·0	31·0	SE	·00	20	29·400	46·0	35·0	NW	·00
21	30·089	39·0	32·0	SSW	·00	21	30·101	41·0	30·0	SSE	·10	21	29·700	42·0	34·0	NW	·00
22	30·063	36·0	28·0	SW	·00	22	29·451	48·0	30·0	SW	·01	22	29·940	43·0	31·0	NNE	·03
23	30·148	35·0	27·0	S	·00	23	29·719	50·0	37·0	SSW	·00	23	30·348	40·0	29·0	NNW	·00
24	30·177	37·0	32·0	SSW	·00	24	29·580	56·0	39·0	S	·00	24	30·148	40·0	33·0	SW	·12
25	30·146	36·0	31·0	SW	·05	25	29·773	52·0	44·0	SW	·00	25	30·157	44·0	37·0	SSW	·00
26	29·875	42·0	33·0	SSW	·12	26	29·794	52·0	40·0	S	·00	26	29·860	49·0	39·0	SSW	·02
27	29·718	45·0	36·0	S	·03	27	29·612	56·0	40·0	SW	·01	27	29·730	50·0	42·0	NW	·00
28	29·566	49·0	38·0	S	·03	28	29·915	45·0	42·0	NW	·00	28	30·298	47·0	33·0	WNW	·00
29	29·302	53·0	41·0	SW	·00							29	29·849	47·0	38·0	S	·28
30	29·155	51·0	42·0	SW	·16							30	30·254	42·0	38·0	NE	·01
31	28·937	46·0	37·0	S	·00							31	30·238	48·0	29·0	SW	·34
Mean Height of Barometer in Month, 29 863.						Mean Height of Barometer in Month, 29·511.						Mean Height of Barometer in Month, 29 961.					
Adopted Mean Temperature, 38·8.						Adopted Mean Temperature, 41·2.						Adopted Mean Temperature, 39·2.					
Rainfall, 1·56 in.						Rainfall, 0·86 in.						Rainfall 1·99 in.					

Table of Meteorological Observations from April to June, 1885.

APRIL.						MAY.						JUNE.					
Date.	Barometer.	Thermometer.		Direction of Wind.	Rainfall.	Date.	Barometer	Thermometer.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermometer.		Direction of Wind.	Rainfall.
		Highest	Lowest.					Highest	Lowest.					Highest	Lowest.		
1	29·609	43·0	40·0	NNW	·05	1	29·564	53·0	43·0	SW	·25	1	30·241	60·0	47·0	WNW	·00
2	29·935	46·0	34·0	WNW	·00	2	29·475	53·0	40·0	S	·05	2	30·133	66·0	45·0	WSW	·00
3	30·235	47·0	38·0	SW	·00	3	29·746	45·0	42·0	ESE	·35	3	29·950	72·0	54·0	W	·00
4	30·073	47·0	34·0	SW	·00	4	29·535	45·0	40·0	NE	·15	4	29·783	74·0	54·0	SW	·00
5	29·801	45·0	32·0	SE	·00	5	29·560	45·0	37·0	NE	·00	5	29·648	69·0	61·0	S	·00
6	29·303	46·0	38·0	SE	·00	6	29·463	44·0	34·0	N	·00	6	29·969	60·0	45·0	E	·14
7	29·253	45·0	41·0	ENE	·00	7	29·541	43·0	34·0	NNW	·20	7	29·933	58·0	40·0	ESE	·47
8	29·744	45·0	38·0	NE	·03	8	29·891	50·0	33·0	NW	·00	8	29·938	56·0	46·0	E	·01
9	29·788	43·0	39·0	NE	·37	9	29·715	53·0	37·0	W	·02	9	30·025	59·0	43·0	NE	·00
10	29·585	43·0	39·0	NE	·37	10	29·641	48·0	37·0	WNW	·04	10	30·378	60·0	41·0	NE	·00
11	29·680	43·0	38·0	E	·05	11	30·013	47·0	36·0	N	·11	11	30·308	70·0	43·0	WNW	·00
12	29·901	44·0	40·0	ENE	·00	12	30·146	49·0	35·0	NE	·00	12	30·239	75·0	51·0	SW	·00
13	29·868	46·0	39·0	NE	·00	13	29·891	50·0	33·0	NNE	·00	13	30·164	72·0	49·0	SSW	·00
14	29·936	44·0	37·0	NNE	·01	14	29·891	52·0	37·0	SE	·15	14	30·136	68·0	46·0	SW	·00
15	29·900	48·0	35·0	E	·00	15	29·835	55·0	35·0	NW	·02	15	30·154	57·0	50·0	N	·00
16	29·910	47·0	37·0	E	·00	16	29·585	52·0	38·0	WNW	·12	16	30·051	60·0	50·0	SE	·00
17	30·127	48·0	34·0	ENE	·00	17	29·691	47·0	42·0	N	·10	17	29·945	57·0	48·0	SSE	·00
18	30·291	60·0	38·0	SSW	·00	18	29·881	47·0	39·0	N	·00	18	29·862	65·0	47·0	SW	·18
19	30·275	66·0	38·0	SW	·00	19	29·901	49·0	39·0	SE	·09	19	29·610	62·0	55·0	WNW	·00
20	30·089	55·0	48·0	WSW	·00	20	29·491	50·0	42·0	SE	·43	20	29·289	63·0	52·0	W	·01
21	29·868	57·0	50·0	WSW	·00	21	29·233	55·0	37·0	SSE	·00	21	29·773	63·0	48·0	W	·00
22	29·689	51·0	47·0	SW	·30	22	29·263	55·0	43·0	SW	·21	22	29·961	64·0	51·0	WSW	·00
23	29·525	49·0	43·0	NW	·03	23	29·460	55·0	42·0	W	·10	23	29·966	55·0	47·0	SW	·20
24	29·547	44·0	41·0	SSE	·23	24	29·680	55·0	42·0	NW	·10	24	30·031	52·0	49·0	NNW	·91
25	29·099	60·0	43·0	SSW	·03	25	29·881	55·0	41·0	WSW	1·23	25	30·128	55·0	47·0	N	·00
26	29·449	59·0	45·0	SW	·07	26	29·826	59·0	41·0	SW	·10	26	30·367	58·0	43·0	NNE	·00
27	29·473	59·0	40·0	SW	·00	27	29·843	58·0	43·0	SW	·00	27	30·269	61·0	46·0	E	·00
28	29·645	63·0	45·0	SSW	·03	28	29·708	69·0	48·0	SW	·02	28	30·251	61·0	48·0	E	·00
29	29·595	54·0	44·0	SSE	·00	29	29·735	60·0	50·0	SSW	·09	29	30·006	57·0	45·0	NE	·00
30	29·675	54·0	45·0	NNE	·06	30	29·875	61·0	46·0	SW	·00	30	30·056	60·0	54·0	NE	·00
						31	29·894	60·0	46·0	WNW	·00						
Mean Height of Barometer in Month, 29·362.						Mean Height of Barometer in Month, 29 375.						Mean Height of Barometer in Month, 30·000.					
Adopted Mean Temperature, 44·6.						Adopted Mean Temperature, 46·1.						Adopted Mean Temperature. 46·1.					
Rainfall, 1·63 in.						Rainfall, 3·93 in.						Rainfall, 1·92 in.					

Table of Meteorological Observations from July to September, 1885.

JULY.						AUGUST.						SEPTEMBER.					
Date.	Barometer.	Thermometer.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermometer.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermometer.		Direction of Wind.	Rainfall.
		Highest	Lowest.					Highest	Lowest.					Highest	Lowest.		
1	30·079	65·0	43·0	WSW	·00	1	30·206	57·0	52·0	N	·01	1	30·133	54·0	40·0	NE	·00
2	30·124	69·0	53·0	S	·00	2	30·162	57·0	42·0	NNE	·00	2	29·961	62·0	43·0	ESE	·35
3	30·169	75·0	55·0	W	·01	3	30·070	58·0	51·0	E	·20	3	29·485	68·0	53·0	SSW	·00
4	30·116	71·0	55·0	WNW	·00	4	30·014	59·0	51·0	ENE	·05	4	29·485	64·0	48·0	SW	·15
5	30·294	80·0	52·0	W	·00	5	30·009	58·0	53·0	ENE	1·92	5	29·412	65·0	48·0	SW	·00
6	30·141	75·0	56·0	SW	·24	6	29·958	63·0	54·0	WNW	·06	6	29·613	64·0	50·0	WNW	·00
7	29·993	65·0	51·0	S	·03	7	29·777	62·0	53·0	NE	·58	7	29·604	58·0	49·0	ESE	·00
8	29·955	70·0	57·0	WSW	·00	8	29·760	62·0	53·0	WNW	·00	8	29·407	60·0	53·0	WNW	·32
9	30·144	79·0	54·0	SSW	·00	9	29·712	61·0	51·0	SW	·03	9	29·452	60·0	48·0	WSW	·00
10	30·094	73·0	49·0	SW	·00	10	29·395	68·0	52·0	SW	·00	10	29·662	60·0	48·0	WSW	·01
11	29·938	74·0	50·0	SW	·00	11	29·497	68·0	53·0	SW	·00	11	29·562	60·0	43·0	WNW	·17
12	22·988	62·0	51·0	SSE	·00	12	29·552	61·0	49·0	SW	·25	12	29·573	61·0	48·0	S	·09
13	29·992	60·0	45·0	SE	·21	13	29·743	59·0	42·0	NNW	·00	13	29·618	64·0	46·0	SW	·00
14	30·153	64·0	46·0	WNW	.02	14	30·212	60·0	42·0	NNW	·00	14	29·818	65·0	50·0	SSW	·12
15	30·059	65·0	51·0	WSW	·08	15	30·149	63·0	44·0	W	·00	15	29·655	70·0	52·0	SW	·04
16	30·002	60·0	48·0	W	·00	16	30·165	75·0	50·0	W	·00	16	29·762	63·0	52·0	W	·00
17	29·868	62·0	48·0	NNW	·12	17	30·044	66·0	57·0	NW	·00	17	29·991	57·0	47·0	NW	·08
18	29·776	63·0	48·0	S	·29	18	30·146	60·0	50·0	N	·00	18	30·074	55·0	44·0	SSE	·21
19	29·840	58·0	51·0	NNW	·07	19	29·159	57·0	47·0	NNE	·01	19	29·670	63·0	47·0	SW	·01
20	29·726	59·0	53·0	NNE	·06	20	30·092	59·0	50·0	NNE	·14	20	29·016	61·0	47·0	WSW	·00
21	29·870	60·0	53·0	ENE	·00	21	29·892	59·0	50·0	NNE	·00	21	30·067	59·0	46·0	WNW	·00
22	30·465	65·0	49·0	SE	·00	22	29·862	56·0	51·0	NE	·00	22	30·164	62·0	47·0	WSW	·00
23	30·333	70·0	56·0	SW	·00	23	29·866	59·0	50·0	N	·00	23	30·064	59·0	53·0	WNW	·00
24	30·286	74·0	54·0	SW	·00	24	29·895	62·0	49·0	NW	·00	24	29·974	52·0	41·0	WNW	·08
25	30·273	80·0	59·0	SW	·05	25	29·980	59·0	55·0	NNE	·00	25	30·077	45·0	39·0	WNW	·36
26	30·325	69·0	60·0	S	·20	26	30·059	56·0	49·0	NE	·00	26	29·977	47·0	35·0	NW	·18
27	30·377	60·0	55·0	E	·00	27	30·059	57·0	50·0	E	·00	27	29·987	50·0	39·0	WNW	·00
28	30·438	68·0	54·0	ENE	·00	28	30·026	56·0	50·0	E	·00	28	29·910	52·0	39·0	W	·30
29	30·385	61·0	47·0	NE	·00	29	30·039	53·0	51·0	ENE	·00	29	29·602	54·0	47·0	NW	·03
30	30·326	60·0	47·0	N	·00	30	30·078	56·0	41·0	NNE	·00	30	29·430	58·0	42·0	SSW	·07
31	30·296	58·0	53·0	NNW	·00	31	30·062	58·0	43·0	ENE	·00						
Mean Height of Barometer in Month, 30·129.						Mean Height of Barometer in Month, 29·880.						Mean Height of Barometer in Month, 29·210.					
Adopted Mean Temperature, 58·8.						Adopted Mean Temperature, 54·8.						Adopted Mean Temperature, 52·4.					
Rainfall, 1·38 in.						Rainfall, 3·25 in.						Rainfall, 2·57 in.					

Table of Meteorological Observations from October to December, 1885.

OCTOBER.						NOVEMBER.						DECEMBER.					
Date.	Barometer.	Thermometer.		Direction of Wind.	Rainfall.	Date.	Barometet.	Thermometer.		Direction of Wind.	Rainfall.	Date	Barometer.	Thermometer.		Direction of Wind.	Rainfall.
		Highest	Lowest					Highest	Lowest.					Highest	Lowest.		
1	29·286	55·0	41·0	NW	·00	1	29·899	52·0	43·0	W	·09	1	30·000	46·0	41·0	W	·00
2	29·648	56·0	45·0	WSW	·00	2	29·889	57·0	39·0	WNW	·12	2	30·000	47·0	40·0	SW	·03
3	29·806	55·0	45·0	WSW	·00	3	29·712	58·0	49·0	WSW	·00	3	29·900	51·0	36·0	WSW	·05
4	29·728	54·0	40·0	WSW	·30	4	29·770	48·0	45·0	W	·03	4	29·200	39·0	37·0	WSW	·00
5	29·347	50·0	40·0	W	·00	5	29·537	42·0	35·0	WSW	·00	5	29·610	39·0	37·0	W	·09
6	29·465	51·0	46·0	W	·05	6	30·141	50·0	34·0	WSW	·00	6	29·520	34·0	32·0	N	·10
7	29·681	49·0	42·0	NW	·10	7	30·123	52·0	42·0	WSW	·00	7	29·750	28·0	26·0	NNW	·00
8	29·824	51·0	41·0	SW	·02	8	30·283	50·0	45·0	SW	·00	8	30·150	32·0	23·0	WNW	·00
9	29·188	53·0	40·0	WNW	·21	9	30·384	46·0	40·0	SSW	·00	9	30·250	32·0	25·0	N	·23
10	29·116	55·0	43·0	NW	·38	10	30·380	45·0	43·0	SE	·05	10	30·450	30·0	26·0	N	·00
11	29·643	48·0	40·0	N	·00	11	30·334	45·0	42·0	SE	·00	11	30·475	35·0	25·0	NNW	·00
12	29·791	49·0	35·0	NNE	·24	12	30·230	44·0	40·0	SE	·00	12	30·150	44·0	31·0	SW	·00
13	29·811	50·0	40·0	NNE	·79	13	29·785	45·0	38·0	SW	·00	13	29·904	49·0	35·0	WSW	·00
14	29·783	50·0	43·0	NNE	·12	14	29·647	46·0	41·0	W	·44	14	30·191	51·0	39·0	SW	·00
15	30·242	53·0	48·0	SE	·00	15	30·117	39·0	32·0	N	·01	15	30·319	49·0	38·0	SSW	·00
16	30·272	52·0	46·0	E	·18	16	30·439	39·0	35·0	NW	·00	16	30·133	56·0	37·0	SW	·00
17	30·169	50·0	47·0	ENE	·15	17	30·400	38·0	30·0	SW	·00	17	30·406	55·0	46·0	WNW	·00
18	30·178	53·0	39·0	NNW	·08	18	30·100	43·0	25·0	SW	·00	18	30·421	50·0	42·0	W	·00
19	30·135	45·0	37·0	NW	·00	19	30·250	45·0	31·0	ESE	·04	19	30·324	49·0	38·0	SSW	·00
20	29·982	45·0	39·0	NW	·00	20	30·100	46·0	35·0	SE	·00	20	30·010	48·0	37·0	S	·07
21	29·791	46·0	36·0	NW	·26	21	30·100	46·0	36·0	SE	·00	21	30·000	48·0	38·0	SW	·00
22	29·690	43·0	40·0	E	·51	22	29·650	45·0	41·0	ENE	·00	22	30·300	46·0	37·0	NNW	·00
23	29·692	47·0	40·0	E	·20	23	29·600	44·0	40·0	ENE	·31	23	30·650	45·0	32·0	NNW	·00
24	29·445	46·0	41·0	NE	·43	24	29·600	45·0	42·0	ESE	·26	24	30·421	46·0	34·0	WNW	·00
25	29·551	49·0	35·0	WNW	·22	25	29·600	47·0	41·0	ESE	·09	25	30·421	46·0	38·0	WNW	·00
26	28·849	50·0	40·0	NW	·03	26	29·550	48·0	36·0	ESE	·73	26	30·400	43·0	37·0	NW	·00
27	29·051	45·0	39·0	NW	·00	27	29·125	49·0	38·0	SW	·06	27	30·350	47·0	36·0	WNW	·00
28	29·142	47·0	45·0	WNW	·20	28	28·850	47·0	40·0	W	·05	28	29·500	46·0	33·0	NW	·05
29	29·835	48·0	41·0	NE	·02	29	29·600	50·0	39·0	SW	·01	29	29·650	39·0	29·0	WNW	·07
30	29·977	46·0	41·0	SE	·15	30	29·600	48·0	39·0	W	·00	30	30·150	45·0	24·0	WNW	·16
31	29·635	47·0	42·0	SE	·14							31	29·800	49·0	33·0	WNW	·01
Mean Height of Barometer in Month, 29·670.						Mean Height of Barometer in Month, 29·890.						Mean Height of Barometer in Month, 30·120.					
Adopted Mean Temperature, 46·8.						Adopted Mean Temperature, 40·2.						Adopted Mean Temperature, 39·2.					
Rainfall, 4·78 in.						Rainfall, 2·29 in.						Rainfall, ·86 in.					

TABLE OF DEATHS IN THE URBAN SANITARY DISTRICT OF SUNDERLAND CLASSIFIED ACCORDING TO DISEASES AND AGES; AND SHEWING ALSO THE POPULATION AND THE BIRTHS THEREIN DURING THE YEAR 1885.

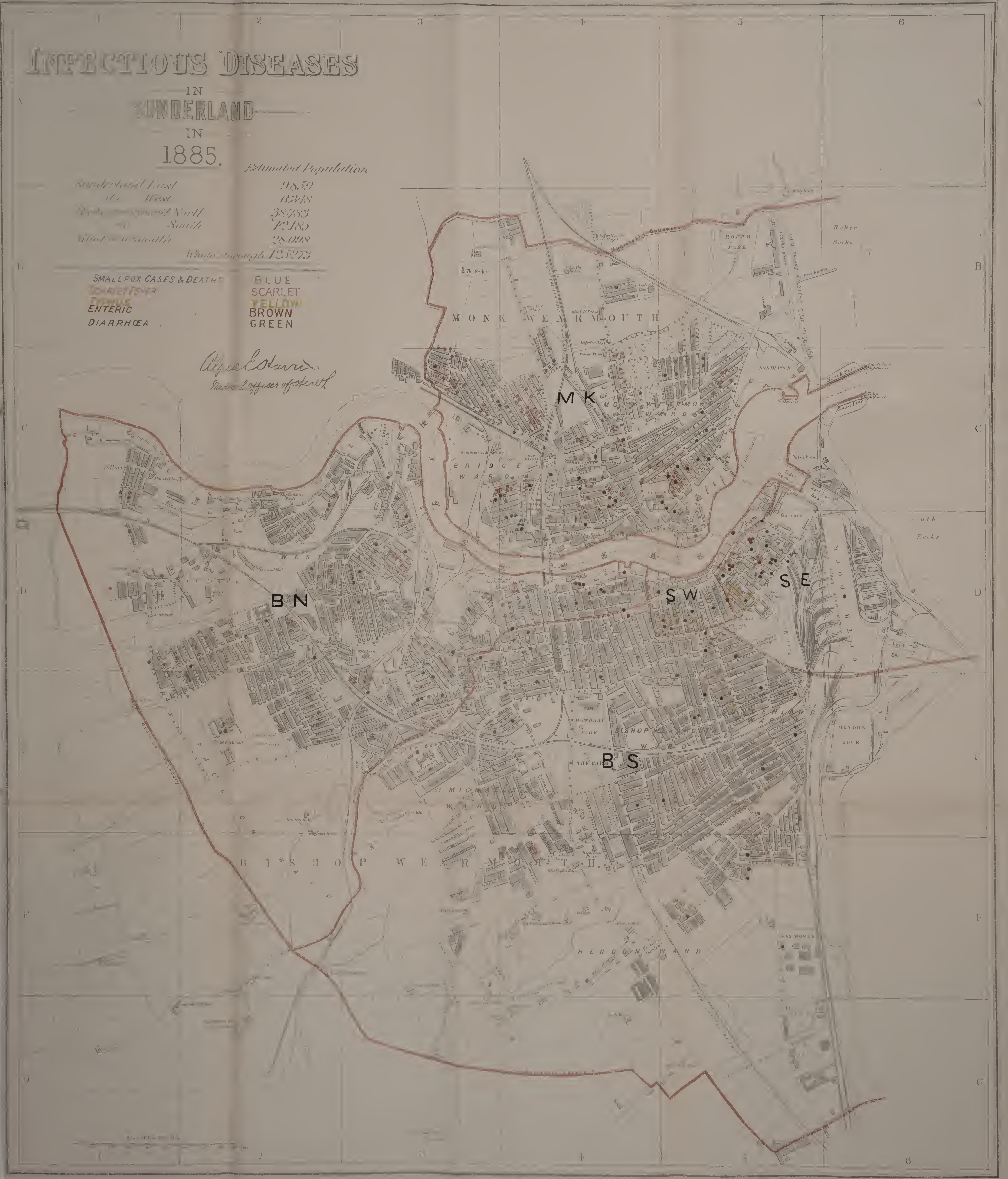
DISTRICTS. 1.	POPULATION AT ALL AGES. Census 1881. 2.	POPULATION AT ALL AGES. Estimated to middle of 1885. 3.	Registered Births. 4.	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES. At all ages. 5.	Under 1 year. 6.	1 and under 5. 7.	5 and under 15. 8.	15 and under 25. 9.	25 and under 60. 10.	60 and upwards. 11.	12.	MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS IN PERSONS UNDER FIVE YEARS OF AGE. Smallpox. 13.	Measles. 14.	Scarlatina. 15.	Diphtheria. 16.	Croup. (not spasmodic.) 17.	Whooping Cough 18.	Continued Fever. Typhus 19.	Continued Fever. Enteric or Typhoid. 20.	Continued Fever. Other or Doubtful. 21.	Diarrhœa and Dysentery. 22.	Cholera. 23.	Rheumatic Fever 24.	Erysipelas. 25.	Pyæmia. 26.	Puerperal Fever. 27.	Ague. 28.	Phthisis. 29.	Bronchitis, Pneumonia, or Pleurisy 30.	Heart Disease. 31	Injuries. 32.
Sunderland East	9,298	9,859	343	232	74	49	19	6	45	39	Under 5	..	19	2	..	1	4	1	..	..	9	..	..	1	..	..	..	..	28	..	3
											5 upwds	..	5	2	..	..	..	..	1	..	1	..	..	1	2	1	..	7	21	11	4
Sunderland West	5,993	6,348	247	189	49	54	11	4	38	33	Under 5	..	25	1	1	2	1	..	..	..	8	..	..	..	..	..	..	..	25	..	..
											5 upwds	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	9	22	10	7
Bishopwearmouth North	35,908	38,783	1520	* 1024	* 229	* 277	* 82	* 46	* 188	* 202	Under 5	2	49	14	3	12	4	..	1	..	14	..	..	1	..	..	..	10	85	3	6
											5 upwds	13	16	9	1	1	1	10	5	..	5	..	3	3	3	2	..	75	94	60	7
Bishopwearmouth South	38,969	42,185	1522	† 878	223	† 199	† 65	† 43	† 177	† 171	Under 5	..	82	27	2	5	10	1	..	..	16	..	..	2	..	..	..	2	76	2	7
											5 upwds	..	6	15	..	..	..	2	5	1	5	..	..	2	2	3	..	62	72	47	28
Monkwearmouth	26,969	28,098	1093	654	165	186	61	21	127	94	Under 5	..	71	18	1	2	12	..	2	..	20	..	..	..	..	..	..	5	53	..	3
											5 upwds	2	10	18	4	..	..	2	1	3	4	..	1	3	..	4	..	42	38	37	9
House of Recovery	..	..	..	15	1	1	2	1	10	..	Under 5	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
											5 upwds	13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
The Infirmary	..	..	..	56	..	7	8	5	34	5	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	4
											5 upwds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	7	21
Workhouse Hospitals	..	..	..	164	5	6	3		56	91	Under 5	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
											5 upwds	..	..	..	..	..	..	5	..	..	3	..	..	2	..	..	..	14	27	12	1
Totals	116,262	125,27	4725	2977	740	765	238	120	575	539	Under 5	2	346	62	7	22	31	2	3	..	67	..	..	4	..	..	..	17	267	5	19
											5 upwds	15	39	44	5	1	1	14	13	4	15	..	4	9	7	10	..	195	247	165	55

* Includes Deaths in the House of Recovery and Workhouse.

† Includes Deaths in the Infirmary.

IN THE URBAN SANITARY DISTRICT OF SUNDERLAND, CLASSIFIED ACCORDING TO LOCALITIES AND DISEASES.

NAMES OF LOCALITIES.		NEW CASES OF SICKNESS IN PERSONS BELONGING TO THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS OF AGE.																	
								Continued Fevers.											
	12.	Smallpox. 13.	Measles. 14.	Scarlatina. 15.	Diphtheria. 16	Croup. (not spasmodic.) 17.	Whooping Cough. 18.	Typhus. 19.	Enteric or Typhoid. 20.	Other or Doubtful. 21.	Diarrhœa and Dysentery. 22.	Cholera. 23.	Rheumatic Fever. 24.	Erysipelas. 25.	Pyæmia. 26.	Puerperal Fever. 27.	Ague. 28.	Other Diseases, such as Chicken Pox, or Pneumonia, which the Medical Officer of Health thinks well to record.
1. SUNDERLAND EAST	Under 5	1	59	3	1	..	..	..	..	..	..	..	..	..	..	..	..	....
	5 upwds	8	69	8	..	..	..	20	9	1	..	..	..	..	..	..	..	....
2. SUNDERLAND WEST	Under 5	..	27	3	..	..	..	..	..	..	..	..	..	..	..	..	..	....
	5 upwds	3	16	4	1	..	..	12	3	1	..	..	..	..	..	..	..	....
3. BISHOPWEARMOUTH NORTH	Under 5	2	134	53	..	..	..	1	1	..	..	..	..	.	..	..	..	....
	5 upwds	20	120	79	9	..	1	3	9	1	..	..	..	..	..	..	..	....
4. BISHOPWEARMOUTH SOUTH	Under 5	3	74	37	..	..	..	2	..	..	..	..	..	..	..	..	..	....
	5 upwds	37	98	95	..	..	..	16	10	2	..	..	..	..	..	..	..	....
5. MONKWEARMOUTH	Under 5	1	173	37	..	..	..	1	..	..	..	..	..	..	..	..	..	....
	5 upwds	34	155	77	4	..	1	3	14	..	..	..	..	..	..	..	..	....
Totals	Under 5	7	467	133	1	..	..	4	1	1	..	..	..	..	..	..	..	....
	5 upwds	102	458	263	14	..	2	54	45	4	..	..	..	..	..	..	..	....



INFECTIOUS DISEASES
IN
SUNDERLAND
IN
1885.

	Estimated Population
Sunderland East	9859
do West	6348
Bishopwearmouth North	38783
do South	42185
Monkwearmouth	28098
Whole Borough	125273

SMALLPOX CASES & DEATHS	BLUE
SCARLET FEVER	SCARLET
TYPHUS	YELLOW
ENTERIC	BROWN
DIARRHŒA	GREEN

Alfred E Harris
Medical Officer of Health